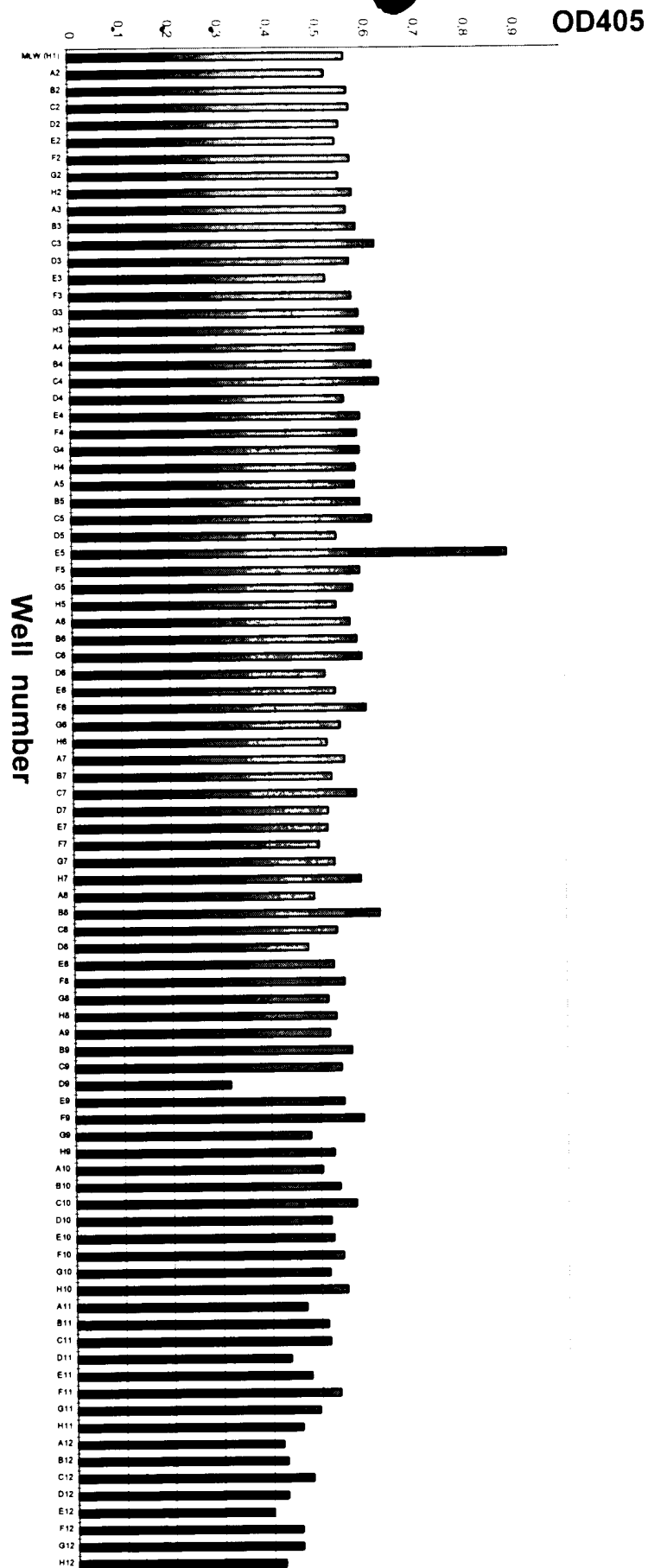


Fig. 1

Fig. 2



OD405

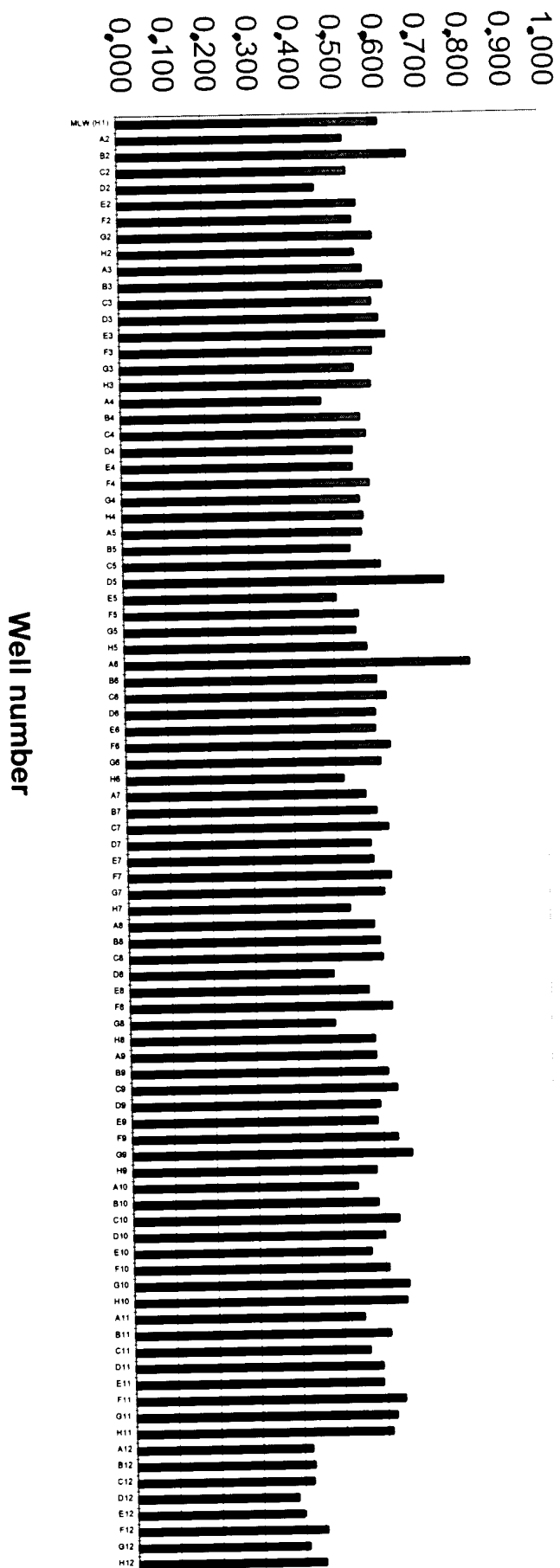


Fig. 3

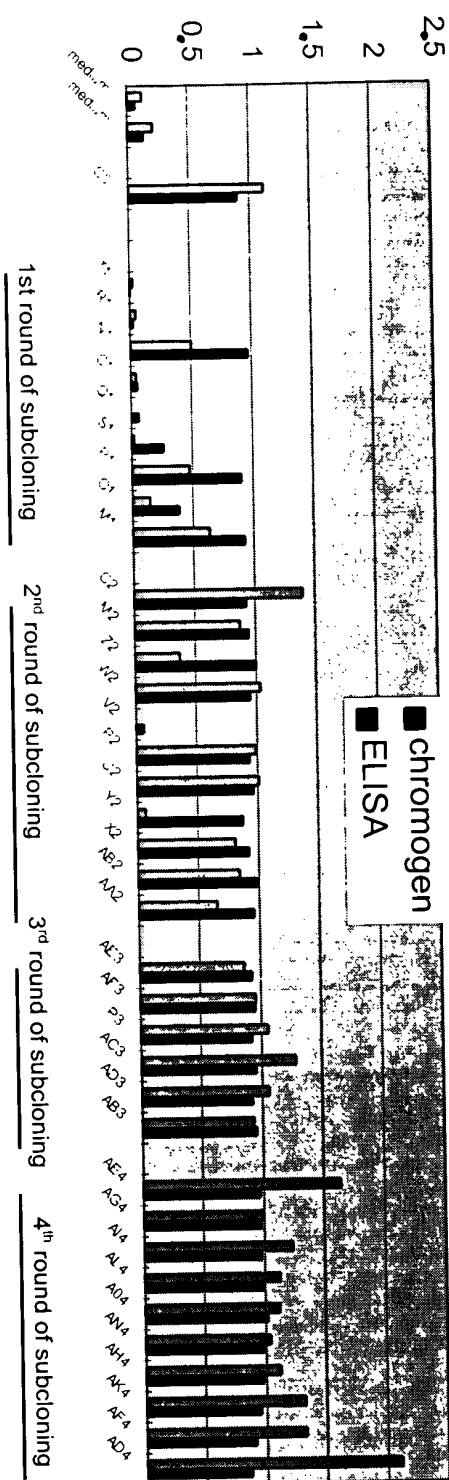


Fig. 4

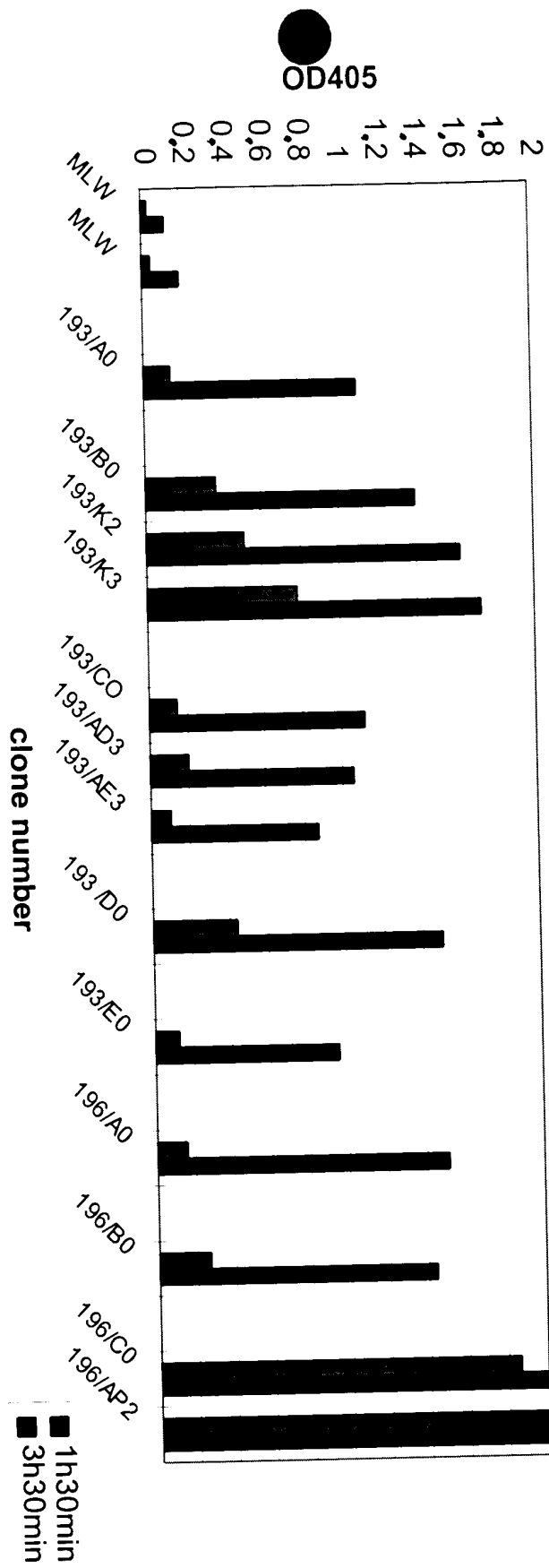


Fig. 5

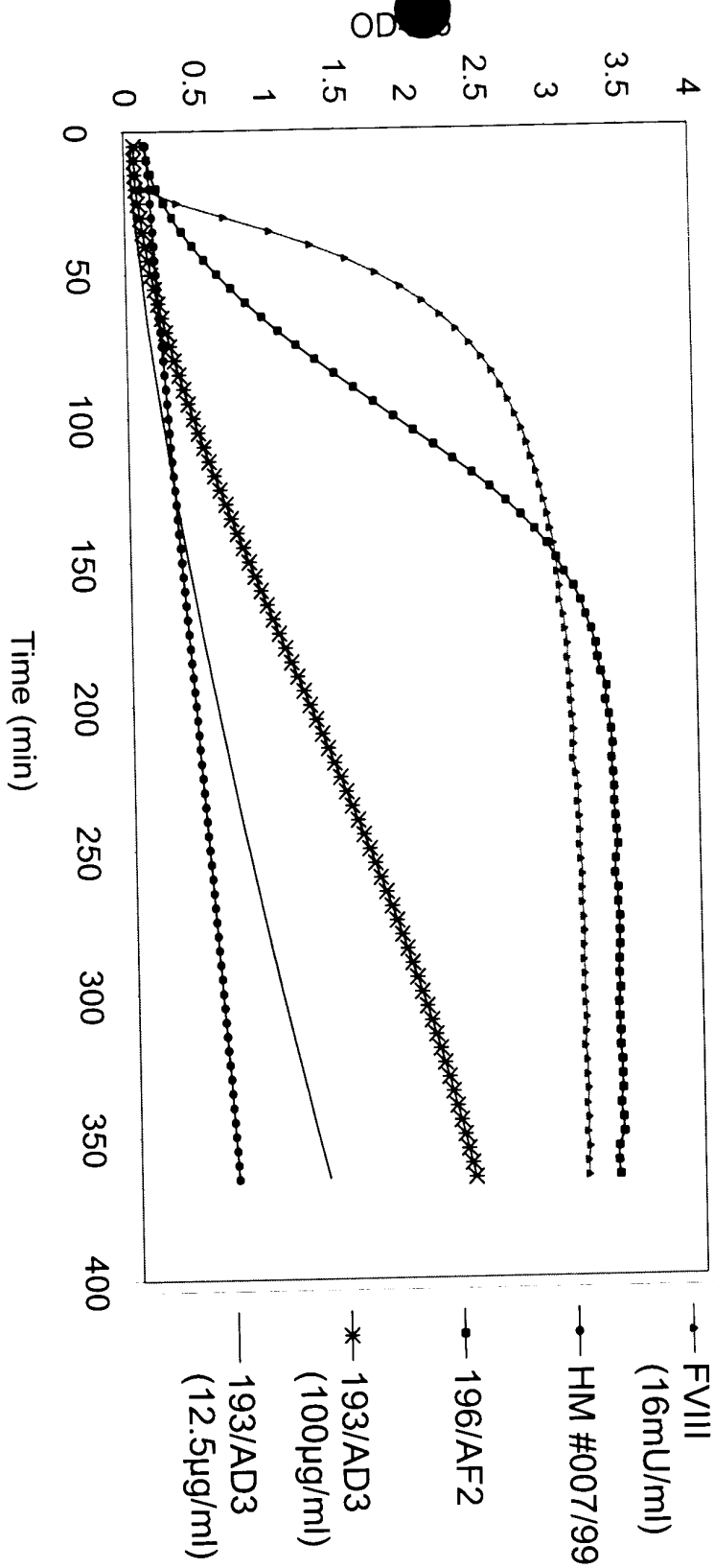


Fig. 6A

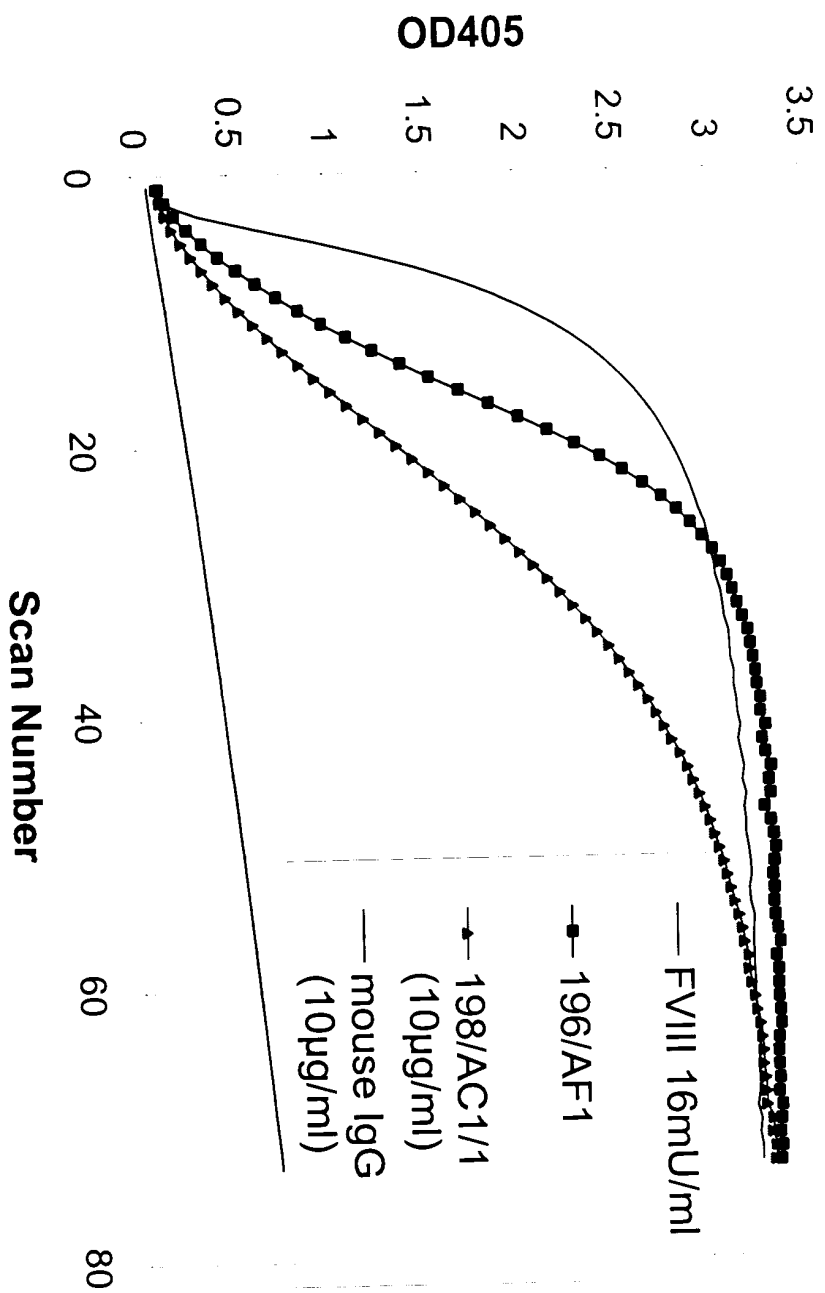
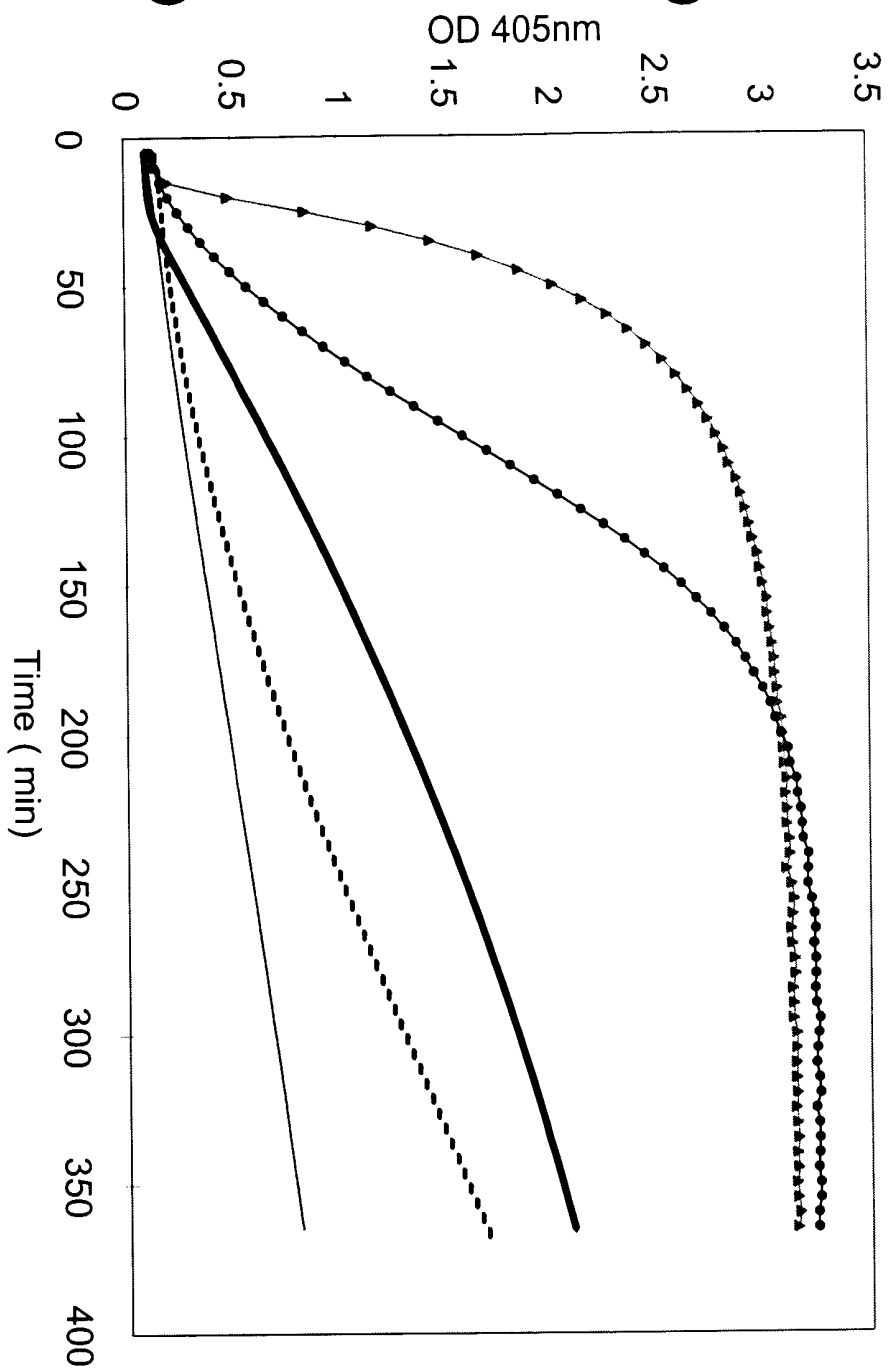


Fig. 6B



— Medium

—▲— FVIII  
(16mU/ml)

— 16mU FVIII,  
35µM  
Pefabloc Xa

—●— 196/AF2

····· 196/AF2,  
35µM  
Pefabloc Xa

Fig. 7A



OD405

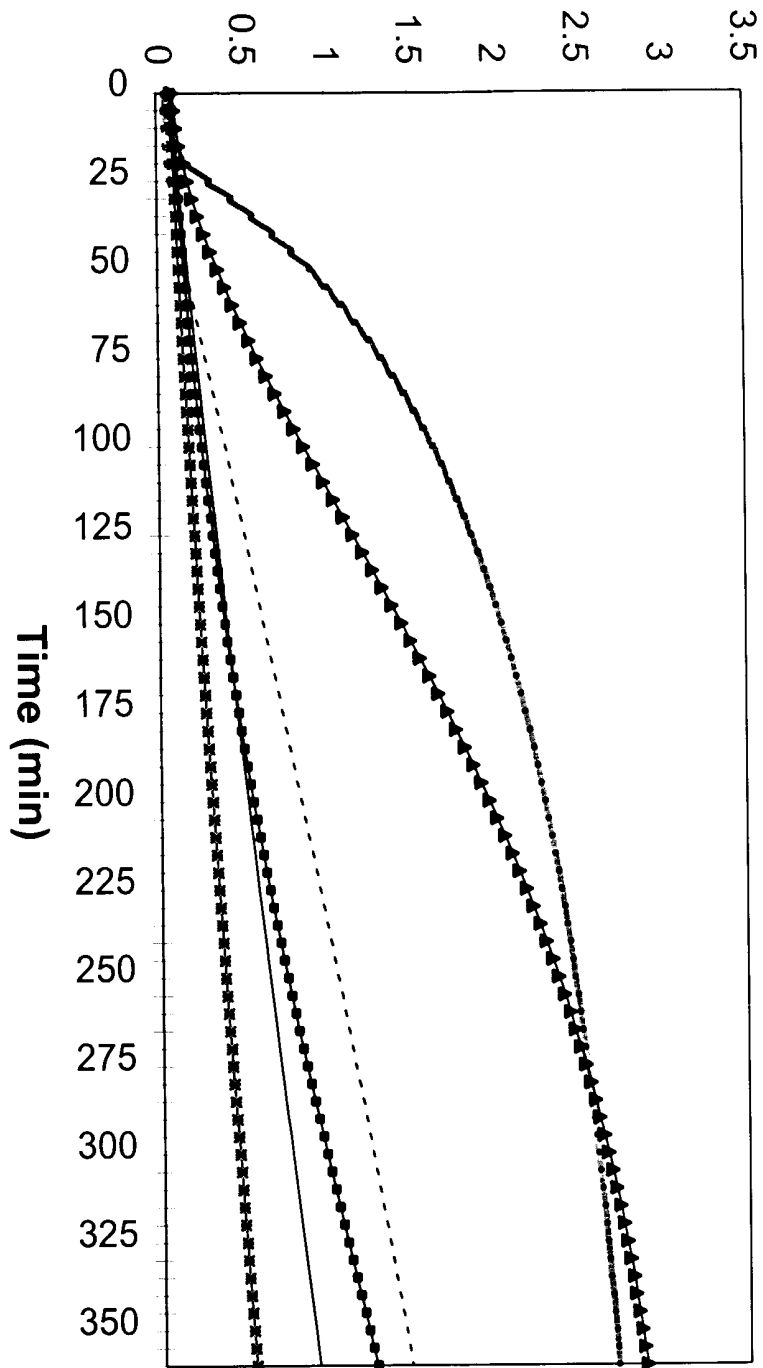


Fig. 7B

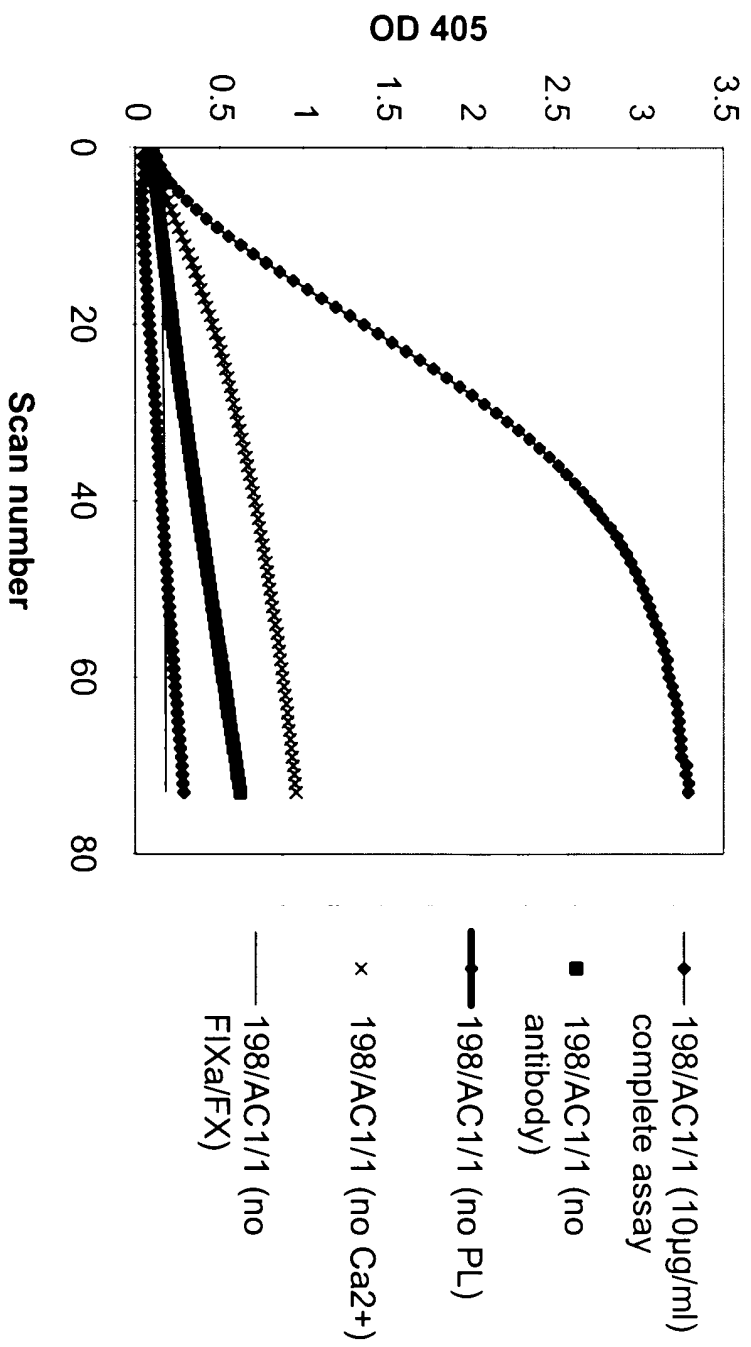


Fig. 8A

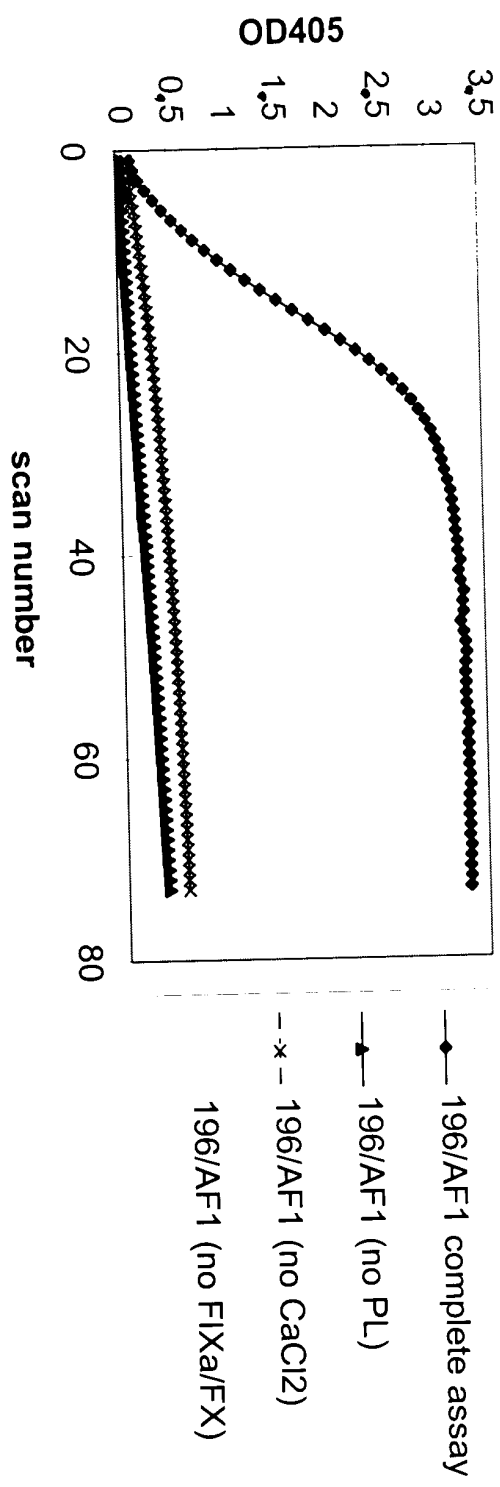


Fig. 8B

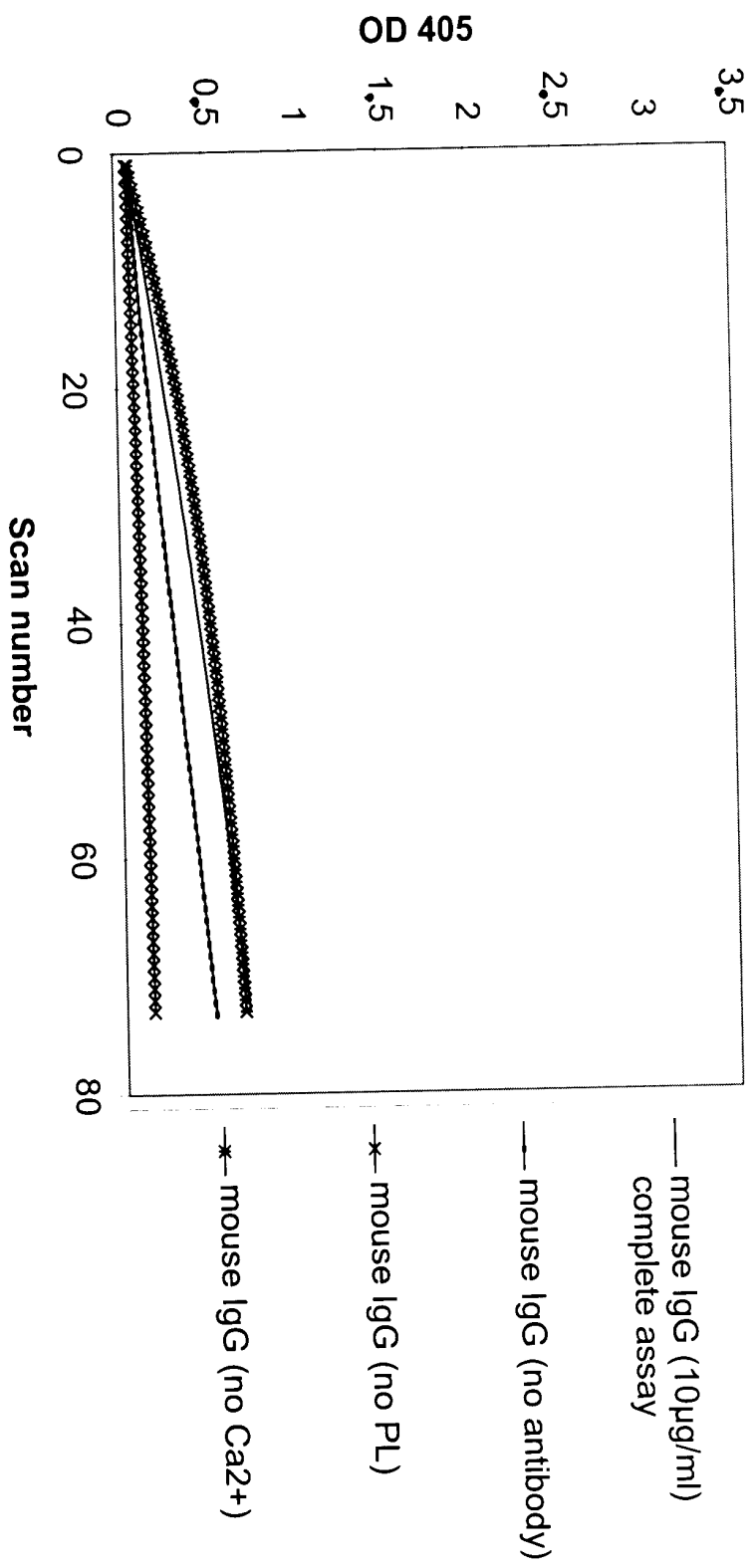


Fig. 8C

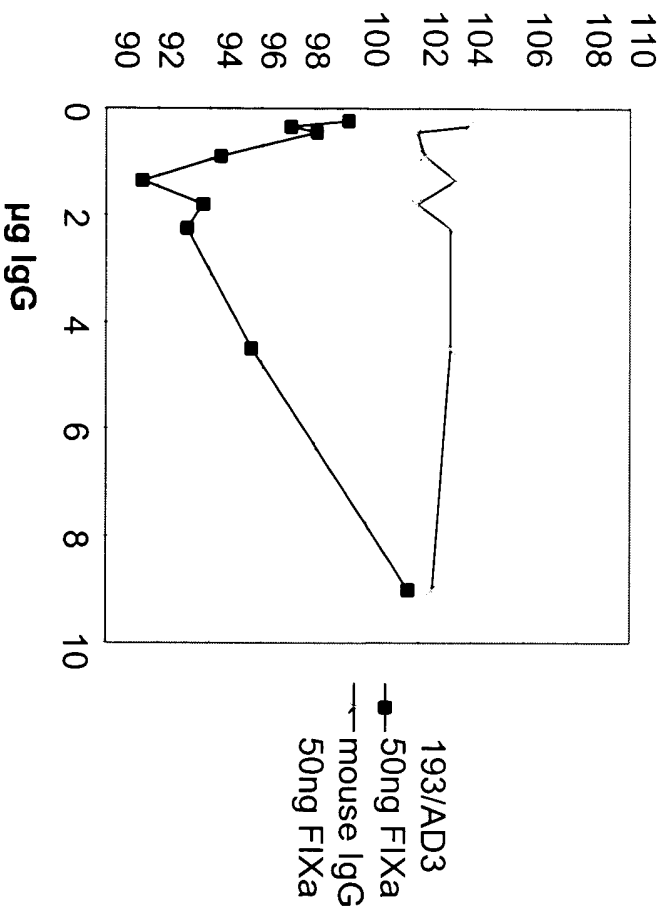


Fig. 9

clotting time  
(sec)

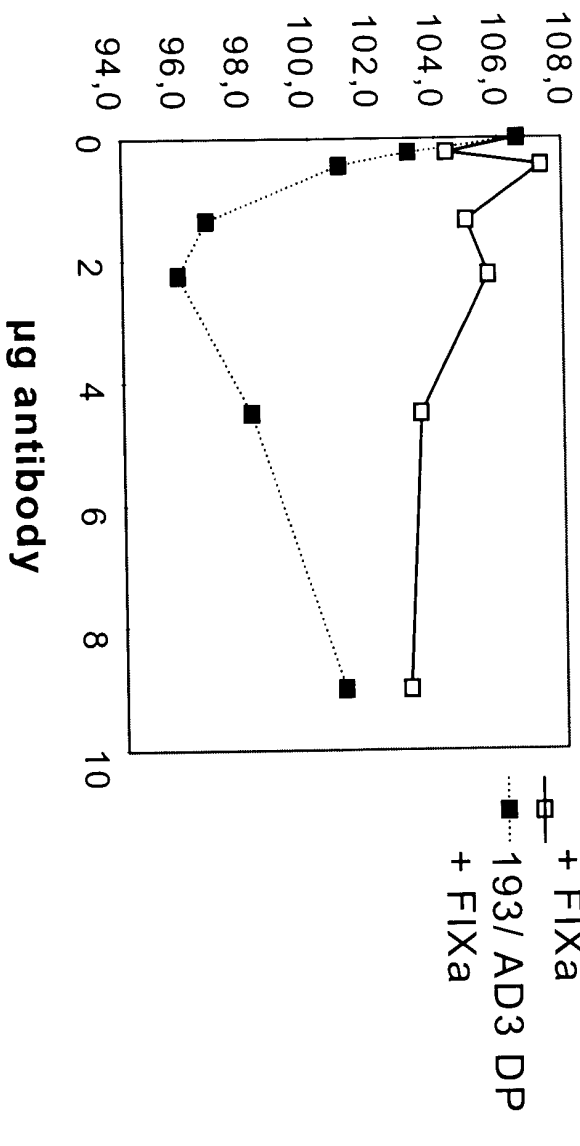


Fig. 10A

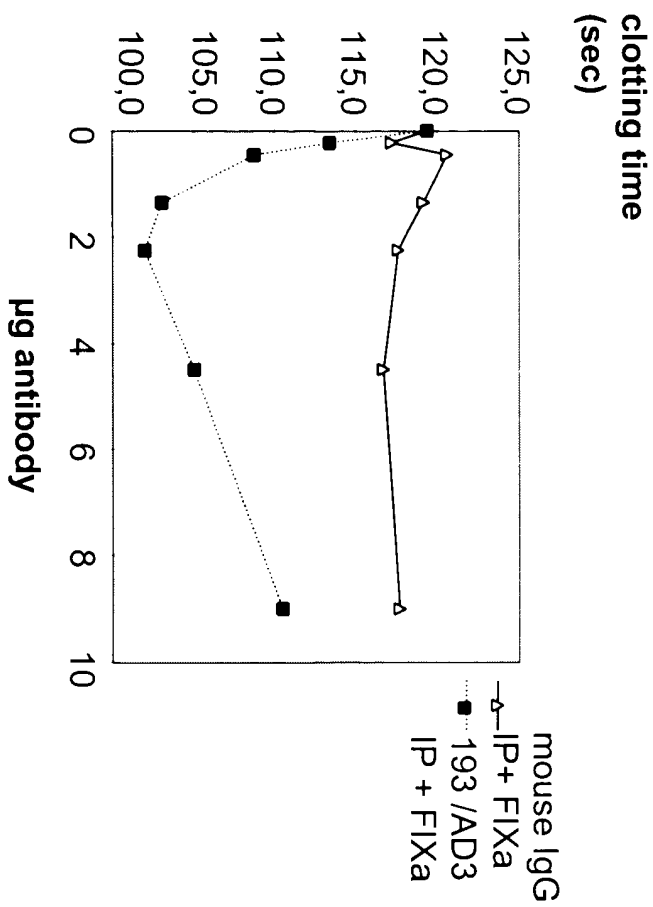


Fig. 10B

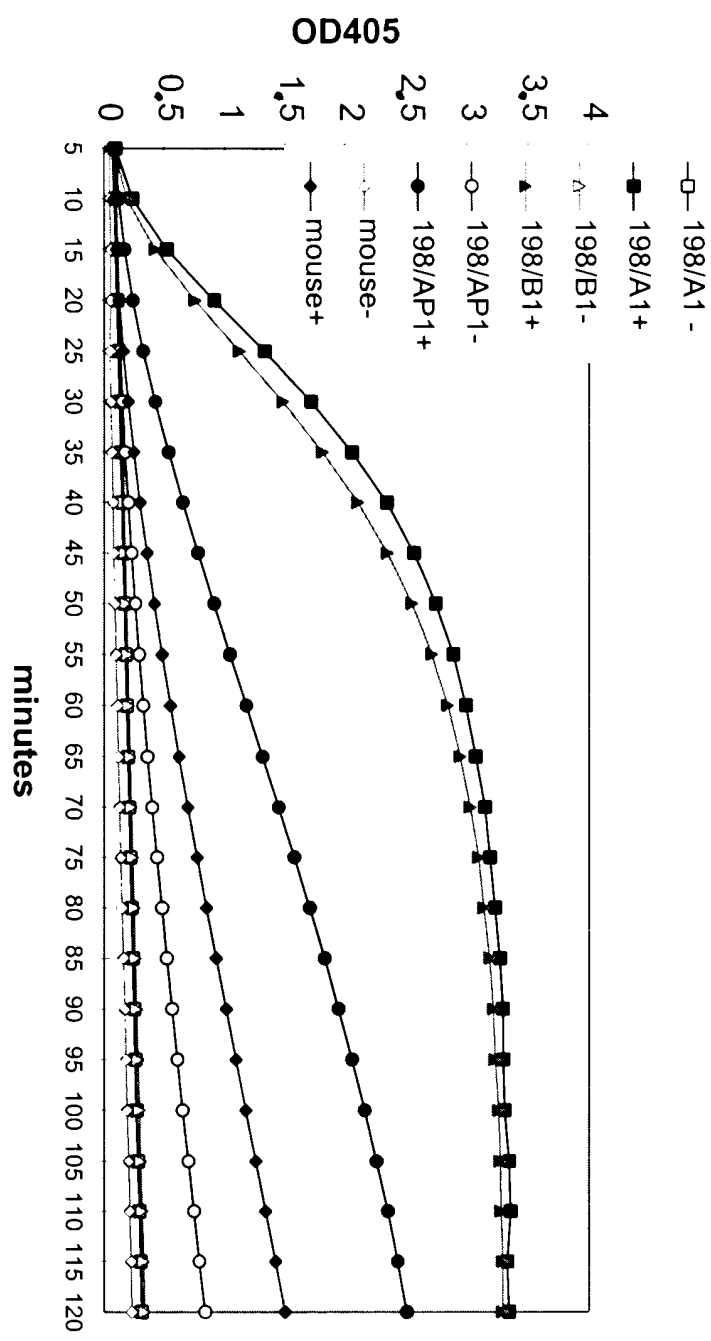


Fig.11



Mouse *V<sub>H</sub>* back primers (containing *Sfi*I-site):

VH1BACK-SfiI	5' C ATG CCA TGA CTC GCG GCC CAG CCG GCC ATG GCC SAG GTS MAR CTG CAG SAG TCW GG 3' (SEQ.ID.NO. 50)
VH1BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAG GTG CAG CTT CAG GAG TCA GG 3' (SEQ.ID.NO. 51)
VH2BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAT GTG CAG CTT CAG GAG TCR GG 3' (SEQ.ID.NO. 52)
VH3BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC CAG GTG CAG CTG AAG SAG TCA GG 3' (SEQ.ID.NO. 53)
VH4/6BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAG GTY CAG CTG CAR CAR TCT GG 3' (SEQ.ID.NO. 54)
VH5/9BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC CAG GTY CAR CTG CAG CAG YCT GG 3' (SEQ.ID.NO. 55)
VH7BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAR GTG AAG CTG GTG GAR TCT GG 3' (SEQ.ID.NO. 56)
VH8BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAG GTT CAG CTT CAG CAG TCT GG 3' (SEQ.ID.NO. 57)
VH10BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC GAA GTG CAG CTG KTG GAG WCT GG 3' (SEQ.ID.NO. 58)
VH11BACKSfiI	5' GTC CTC GCA ACT GCG GCC CAG CCG GCC ATG GCC CAG ATC CAG TTG CTG CAG TCT GG 3' (SEQ.ID.NO. 59)

Mouse JH forward primers (containing 1/2 linker-sequence and AscI-site):

VH1FORLIAsc

5' ACC GCC AGA GGC GCG CCC ACC TGA ACC GCC TCC ACC TGA GGA GAC GGT  
GAC CGT GGT CCC TTG GCC CC 3' (SEQ.ID.NO. 60)

JH1FORLIAsc

5' ACC GCC AGA GGC GCG CCC ACC TGA ACC GCC TCC ACC TGA GGA GAC GGT  
GAC CGT GGT CCC 3' (SEQ.ID.NO. 61)

JH2FORLIAsc

5' ACC GCC AGA GGC GCG CCC ACC TGA ACC GCC TCC ACC TGA GGA GAC TGT  
GAG AGT GGT GCC 3' (SEQ.ID.NO. 62)

JH3FORLIAsc

5' ACC GCC AGA GGC GCG CCC ACC TGA ACC GCC TCC ACC TGC AGA GAC AGT  
GAC CAG AGT CCC 3' (SEQ.ID.NO. 63)

JH4FORLIAsc

5' ACC GCC AGA GGC GCG CCC ACC TGA ACC GCC TCC ACC TGA GGA GAC GGT  
GAC TGA GGT TCC 3' (SEQ.ID.NO. 64)

---

IUPAC-Code: M=A/C, W=A/T, R=A/G, Y=C/T, S=C/G, K=G/T, H=A/C/T, D=A/G/T, V=A/C/G, B=T/C/G.

Fig. 12-2

# Primers for cloning mouse V<sub>k</sub> genes

Mouse V<sub>k</sub> back primers (containing AscI-site and ½ linker-sequence):

VK2BACK-LiAscI	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GAG CTC ACC CAG TCT CCA 3' (SEQ.ID.NO. 65)
VK1BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GTG ATG WCA CAG TCT CC 3' (SEQ.ID.NO. 66)
VK2BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAT GTT KTG ATG ACC CAA ACT CC 3' (SEQ.ID.NO. 67)
VK3BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAT ATT GTG ATR ACB CAG GCW GC 3' (SEQ.ID.NO. 68)
VK4BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GTG CTG ACM CAR TCT CC 3' (SEQ.ID.NO. 69)
VK5BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG SAA AWT GTK CTC ACC CAG TCT CC 3' (SEQ.ID.NO. 70)
VK6BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAY ATY VWG ATG ACM CAG WCT CC 3' (SEQ.ID.NO. 71)
VK7BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG CAA ATT GTT CTC ACC CAG TCT CC 3' (SEQ.ID.NO. 72)
VK8BACKLi Asc	5' GGT TCA GAT GGG CGC GCC TCT GGC GGT GGC GGA TCG TCA TTA TTG CAG GTG CTT GTG GG 3' (SEQ.ID.NO. 73)

Mouse  $J_{\kappa}$  forward primers (containing NotI-site):

JK1NOT10	5' GAG TCA TTC TGC GGC CGC CCG TTT GAT TTC CAG CTT GGT GCC 3'
	(SEQ.ID.NO. 74)
JK2NOT10	5' GAG TCA TTC TGC GGC CGC CCG TTT TAT TTC CAG CTT GGT CCC 3'
	(SEQ.ID.NO. 75)
JK3NOT10	5' GAG TCA TTC TGC GGC CGC CCG TTT TAT TTC CAG TCT GGT CCC 3'
	(SEQ.ID.NO. 76)
JK4NOT10	5' GAG TCA TTC TGC GGC CGC CCG TTT TAT TTC CAA CTT TGT CCC 3'
	(SEQ.ID.NO. 77)
JK5NOT10	5' GAG TCA TTC TGC GGC CGC CCG TTT CAG CTC CAG CTT GGT CCC 3'
	(SEQ.ID.NO. 78)

---

IUPAC-Code: K=G/T, M=A/C, W=A/T, R=A/G, Y=C/T, S=C/G, H=A/C/T, D=A/G/T, V=A/C/G, B=T/C/G.

Fig. 13-2

# VH

+1 E V K L V E S G P E L K K P G

1 GAG GTG AAG CTG GTG GAG TCT GGA CCT GAG CTG AAG AAG CCT GGA

+1 E T V K I S C K A S G Y I F T  
46 GAG ACA GTC AAG ATC TCC TGC AAG GCT TCT GGG TAT ATC TTC ACA

+1 N Y G M N W V K Q A P G K G L  
91 AAC TAT GGA ATG AAC TGG GTG AAG CAG GCT CCA GGA AAG GGT TTA

+1 K W M G W I N T Y T G E P T Y  
136 AAG TGG ATG GGC TGG ATA AAC ACC TAC ACT GGA GAG CCA ACA TAT

+1 A D D F K G R F A F S L E T S  
181 GCT GAT GAC TTC AAG GGA CGG TTT GCC TTC TCT TTG GAA ACC TCT

+1 A S T A Y L Q I N N L K N E D  
226 GCC AGC ACT GCC TAT TTG CAG ATC AAC AAC CTC AAA AAT GAG GAC

+1 T A T Y F C A L Y G N S P K G  
271 ACG GCT ACA TAT TTC TGT GCA TTA TAT GGT AAC TCC CCT AAG GGG

*linker*

+1 F A Y W G Q G T L V T V S A G  
316 TTT GCT TAC TGG GGC CAA GGG ACT CTG GTC ACT GTC TCT GCA GGT

*VL*

+1 G G G S G G R A S G G G S D  
361 GGA GGC GGT TCA GGT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAT

+1 I Q M T Q S P K F L L V S A G  
406 ATT CAG ATG ACA CAG TCT CCC AAA TTC CTG CTT GTA TCA GCA GGA

F16 14-1

+1 D R V T I T C K A S Q S V S N  
 451 GAC AGG GTT ACC ATA ACC TGC AAG GCC AGT CAG AGT GTG AGT AAT  
 +1 D V A W Y Q Q K P G Q S P K L  
 496 GAT GTA GCT TGG TAC CAA CAG AAG CCG GGG CAG TCT CCT AAA CTA  
 +1 L M Y Y A S N R Y T G V P D R  
 541 CTG ATG TAC TAT GCA TCC AAT CGC TAC ACT GGA GTC CCT GAT CGC  
 +1 F T G S G Y G T D F T F T I S  
 586 TTC ACT GGC AGT AGA TAT GGG ACG GAT TTC ACT TTC ACC ATC AGC  
 +1 T V Q A E D L A V Y F C Q Q D  
 631 ACT GTG CAG GCT GAA GAC CTG GCA GTT TAT TTC TGT CAG CAG GAT  
 +1 Y G S P P T F G G G T K L E I  
 676 TAT GGC TCT CCT CCC ACG TTC GGA GGG GGC ACC AAG CTG GAA ATT  
 +1 K R  
 721 AAA CGG

Fig. 14-2

VH  
 +1 E V Q L V E S G G G L V K P G  
 1 GAA GTG CAG CTG GTG GAG TCT GGG GGA GGC CTA GTG AAG CCT GGA  
 +1 G S L K L S C A A S G F T F S  
 46 GGG TCC CTG AAA CTC TCC TGT GCA GCC TCT GGA TTC ACT TTC AGT  
 +1 T Y T M S W V R Q T P E K R L  
 91 ACC TAT ACC ATG TCT TGG GTT CGC CAG ACT CCG GAG AAG AGG CTG  
 +1 E W V A T I S S G G S Y T Y Y  
 136 GAG TGG GTC GCA ACC ATT AGT AGT GGT GGT AGT TAC ACC TAC TAT  
 +1 P D S V R G R F T I S R D N A  
 181 CCA GAC AGT GTG AGG GGC CGA TTC ACC ATC TCC AGA GAC AAT GCC  
 +1 K N T L Y L Q M S S L K S E D  
 226 AAG AAC ACC CTG TAC CTG CAA ATG AGC AGT CTG AAG TCT GAG GAC  
 +1 T A M Y Y C T R D G G H G Y G  
 271 ACA GCC ATG TAT TAC TGT ACA AGA GAT GGG GGA CAC GGG TAC GGT  
 +1 S S F D Y W G Q G T T L T V S  
 316 AGT AGC TTT GAC TAC TGG GGC CAA GGC ACC ACT CTC ACA GTC TCC  
 linker  
 +1 S G G G S G G R A S G G G  
 361 TCA GGT GGA GGC GGT TCA GGT GGG CGC GCC TCT GGC GGT GGC GGA  
 VL  
 +1 S Q I V L T Q S P L S L P V S  
 406 TCG CAA ATT GTG CTC ACC CAG TCT CCA CTC TCC CTG CCT GTC AGT

FIG 15-1

+1 L G D Q A S I S C R S S Q S I  
 451 CTT GGA GAT CAA GCC TCC ATC TCT TGC AGA TCT AGT CAG AGC ATT  
 +1 V H S N G N T Y L E W Y L Q K  
 496 GTA CAT AGT AAT GGA AAC ACC TAT TTA GAA TGG TAC CTG CAG AAA  
 +1 P G Q S P K L L I Y K V S N R  
 541 CCA GGC CAG TCT CCA AAG CTC CTG ATC TAC AAA GTT TCC AAC CGA  
 +1 F S G V P D K F S G S G S G T  
 586 TTT TCT GGG GTC CCA GAC AAA TTC AGT GGC AGT GGA TCA GGG ACA  
 +1 D F T L K I S R V E A E D L G  
 631 GAT TTC ACA CTC AAG ATC AGC AGA GTG GAG GCT GAG GAT CTG GGA  
 +1 V Y Y C **F Q G S H V P W T F G**  
 676 GTT TAT TAC TGC **TTT CAA GGT TCA CAT GTT CCG TGG ACG** TTC GGT  
 1 G G T K L E I K R  
 721 GGA GGC ACC AAG CTG GAA ATC AAA CGG

Fig. 15 - 2



+1 E V Q L Q E S G G G L V K P G  
1 GAG GTG CAG CTT CAG GAG TCA GGG GGA GGC TTA GTG AAG CCT GGA

+1 G S L K L S C A A S G F T F S  
46 GGG TCC CTG AAA CTC TCC TGT GCA GCC TCT GGA TTC ACT TTC AGT

+1 S Y T M S W V R Q T P E K R L  
91 AGC TAT ACC ATG TCT TGG GTT CGC CAG ACT CCG GAG AAG AGG CTG

+1 E W V A T I S S G G S S T Y Y  
136 GAG TGG GTC GCA ACC ATT AGT AGT GGT GGT AGT TCC ACC TAC TAT

+1 P D S V K G R F T I S R D N A  
181 CCA GAC AGT GTG AAG GGC CGA TTC ACC ATC TCC AGA GAC AAT GCC

+1 K N T L Y L Q M S S L R S E D  
226 AAG AAC ACC CTG TAC CTG CAA ATG AGC AGT CTG AGG TCT GAG GAC

+1 T A M Y Y C T R E G G G T T C A C C G T C  
271 ACA GCC ATG TAT TAC TGT ACA AGA GAG GGG GGT GGT TTC ACC GTC

+1 N W Y F D V W G A G T L V T V  
316 AAC TGG TAC TTC GAT GTC TGG GGC GCA GGG ACT CTG GTC ACT GTC

*linker*

+1 S A G G G G S G G R A S G G G  
361 TCT GCA GGT GGA GGC GGT TCA GGT GGG CGC GCC TCT GGC GGT GGC

*VL*

+1 G S E N V L T Q S P A S L A V  
406 GGA TCG GAA AAT GTG CTC ACC CAG TCT CCA GCT TCT TTG GCT GTG

FIG 16-1

+1 S L G Q R A T I S C R A S E S  
 451 TCT CTA GGG CAG AGG GCC ACC ATA TCC TGC AGA GCC AGT GAA AGT  
 +1 V D S Y G Y N F M H W Y Q Q I  
 496 GTT GAT AGT TAT TAT GGC TAT AAT TTT ATG CAC TGG TAT CAG CAG ATA  
 +1 P G Q P P K L L I Y R A S N L  
 541 CCA GGA CAG CCA CCC AAA CTC CTC ATC TAT CGT GCA TCC AAC CTA  
 +1 E S G I P A R F S G S G S R T  
 586 GAG TCT GGG ATC CCT GCC AGG TTC AGT GGC AGT GGG TCT AGG ACA  
 +1 D F T L T I N P V E A D D V A  
 631 GAC TTC ACC CTC ACC ATT AAT CCT GTG GAG GCT GAT GAT GTT GCA  
 +1 T Y Y C Q Q S N E D P L T F G  
 676 ACC TAT TAC TGT CAG CAA AGT AAT GAG GAT CCG CTC ACG TTC GGT  
 +1 T G T R L E I K R  
 721 ACT GGG ACC AGA CTG GAA ATA AAA CGG

Fig. 16 - 2

VH

+1 E V Q L Q E S G G L V K P G S L K L  
1 GAG GTG CAG CTT CAG GAG TCA GGG GGA GGC TTA GTG AAG CCT GGA GGG TCC CTG AAA CTC  
CTC CAC GTC GAA GTC AGT CCC CCT CCG AAT CAC TTC GGA CCT CCC AGG GAC TTT GAG

+1 S C A A S G F I F S S Y T M S W V R Q T  
61 TCC TGT GCA GCC TCT GGA TTC ATT TTT AGT AGT TAT ACC ATG TCT TGG GTT CGC CAG ACT  
AGG ACA CGT CGG AGA CCT AAG TAA AAA TCA TCA ATA TGG TAC AGA ACC CAA GCG GTC TGA

+1 P E K R L E W V A T I S S G G S S T Y Y  
121 CCG GAG AAG AGG CTG GAG TGG GTC GCA ACC ATT AGT AGT GGT GGT AGT TCC ACC TAC TAT  
GGC CTC TTC TCC GAC CTC ACC CAG CGT TGG TAA TCA TCA CCA CCA TCA AGG TGG ATG ATA

+1 P D S V K G R F T I S R D N A K N T L Y  
181 CCA GAC AGT GTG AAG GGC CGA TTC ACC ATC TCC AGA GAC AAT GCC AAG AAC ACC CTG TAC  
GGT CTG TCA CAC TTC CCG GCT AAG TGG TAG AGG TCT CTG TTA CCG TTC TTG TGG GAC ATG

+1 L Q M S S L K S E D T A M Y H C T R E G  
241 CTG CAA ATG AGC AGT CTG AAG TCT GAG GAC ACA GCC ATG TAT CAC TGT ACA AGA GAG GGG  
GAC GTT TAC TCG TCA GAC TTC AGA CTC CTG TGT CGG TAC ATA GTG ACA TGT TCT CTC CCC

+1 G G Y Y V N W Y F D V W G A G T T L T V  
301 GGT GGT TAT TAC GTC AAC TGG TAC TTC GAT GTC TGG GGC GCA GGC ACC ACT CTC ACA GTC  
CCA CCA ATA ATG CAG TTG ACC ATG AAG CTA CAG ACC CCG CGT CCG TGG TGA GAG TGT CAG

linker

VL

+1 S S G G G S G R A S G G G S D I E  
361 TCC TCA GGT GGA GGC GGT TCA GGT GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GAG  
AGG AGT CCA CCT CCG CCA AGT CCA CCC GCG CGG AGA CCG CCA CCG CCT AGC CTG TAA CTC

+1 L T Q S P A S L A V S L G Q R A T I S C  
421 CTC ACN CAG TCT CCA GCT TCT TTG GCT GTG TCT CTA GGG CAG AGG GCC ACC ATA TCC TGC  
GAG TGN GTC AGA GGT CGA AGA AAC CGA CAC AGA GAT CCC GTC TCC CGG TGG TAT AGG ACG

FIG 17-1

+1	R	A	S	E	S	V	D	S	Y	G	K	S	F	M	H	W	Y	Q	Q	K
481	AGA	GCC	AGT	GAA	AGT	GTT	GAT	AGT	TAT	GGC	AAG	AGT	TTT	ATG	CAC	TGG	TAC	CAG	CAG	AAA
	TCT	CGG	TCA	CTT	TCA	CAA	CTA	TCA	ATA	CCG	TTC	TCA	AAA	TAC	GTG	ACC	ATG	GTC	GTC	TTT
+1	P	G	Q	P	P	K	L	L	I	Y	R	A	S	N	L	E	S	G	I	P
541	CCA	GGG	CAG	CCA	CCC	AAA	CTC	CTC	ATC	TAT	CGT	GCA	TCC	AAC	CTA	GAA	TCT	GGG	ATC	CCT
	GGT	CCC	GTC	GGT	GGG	TTT	GAG	GAG	TAG	ATA	GCA	CGT	AGG	TTG	GAT	CTT	AGA	CCC	TAG	GGA
+1	A	R	F	S	G	S	G	S	R	T	D	F	T	L	T	I	N	P	V	E
601	GCC	AGG	TTC	AGT	GGC	AGT	GGG	TCT	AGG	ACA	GAC	TTC	ACC	CTC	ACC	ATT	AAT	CCT	GTG	GAG
	CGG	TCC	AAG	TCA	CCG	TCA	CCC	AGA	TCC	TGT	CTG	AAG	TGG	GAG	TGG	TAA	TTA	GGA	CAC	CTC
+1	A	D	D	V	A	T	Y	Y	C	Q	Q	S	N	E	D	P	L	T	F	G
661	GCT	GAT	GAT	GTT	GCN	ACC	TAT	TAC	TGT	CAG	CAA	AGT	AAT	GAG	GAT	CCC	CTC	ACG	TTC	GGT
	CGA	CTA	CTA	CAA	CGN	TGG	ATA	ATG	ACA	GTC	GTT	TCA	TTA	CTC	CTA	GGG	GAG	TGC	AAG	CCA
+1	A	G	T	R	L	E	I	K	R											
721	GCT	GGG	ACC	AGA	CTG	GAA	ATA	AAA	CGG											
	CGA	CCC	TGG	TCT	GAC	CTT	TAT	TTT	GCC											

Fig. 17-2

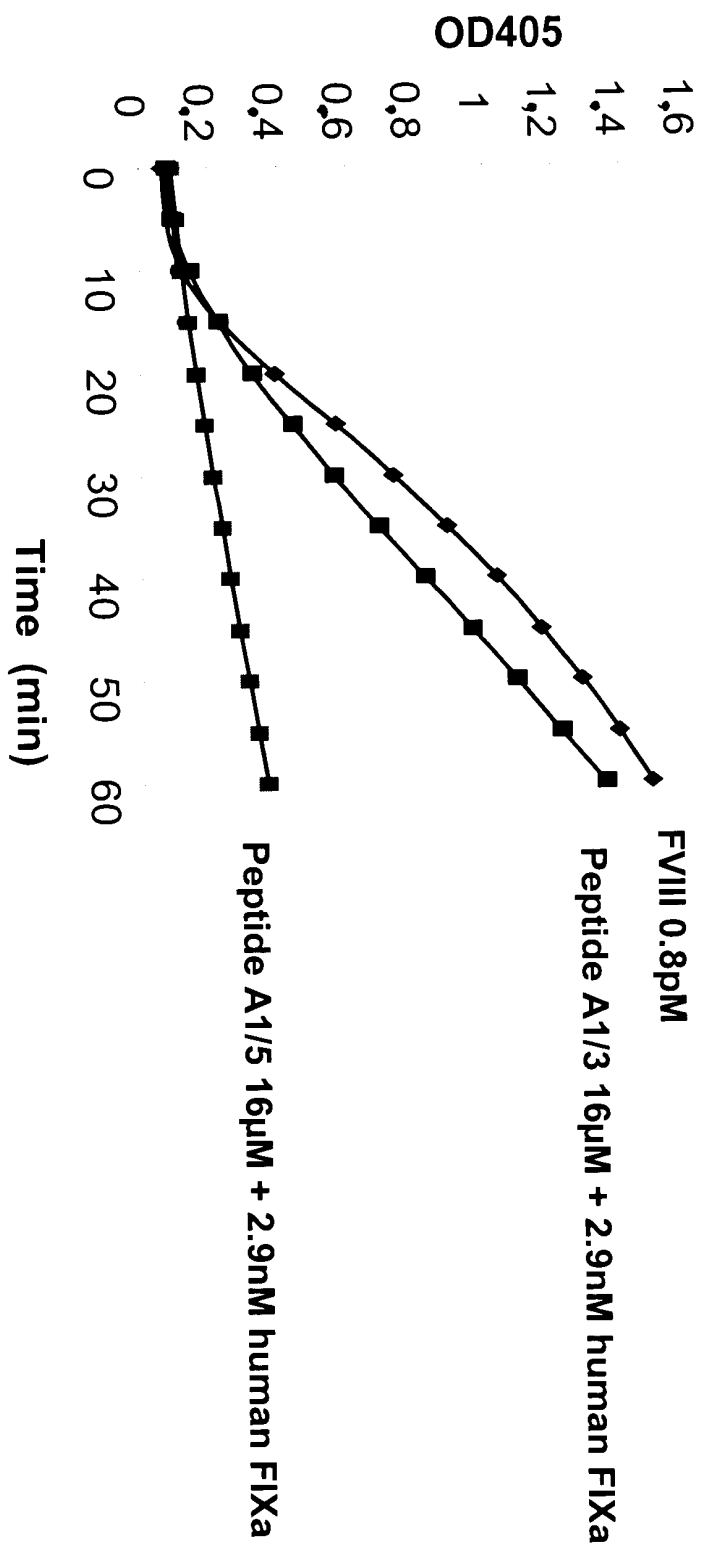


Fig. 18

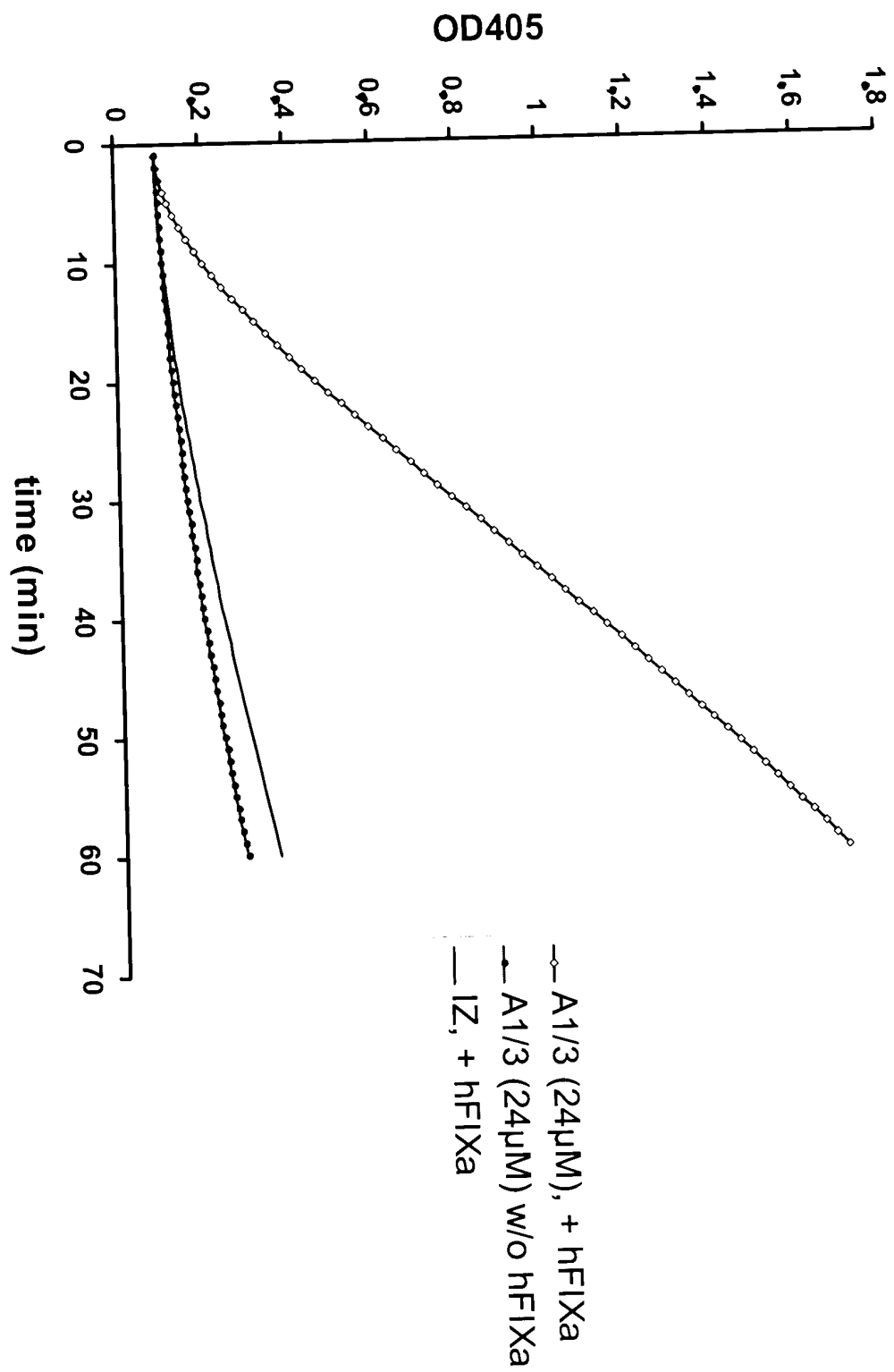


Fig. 19

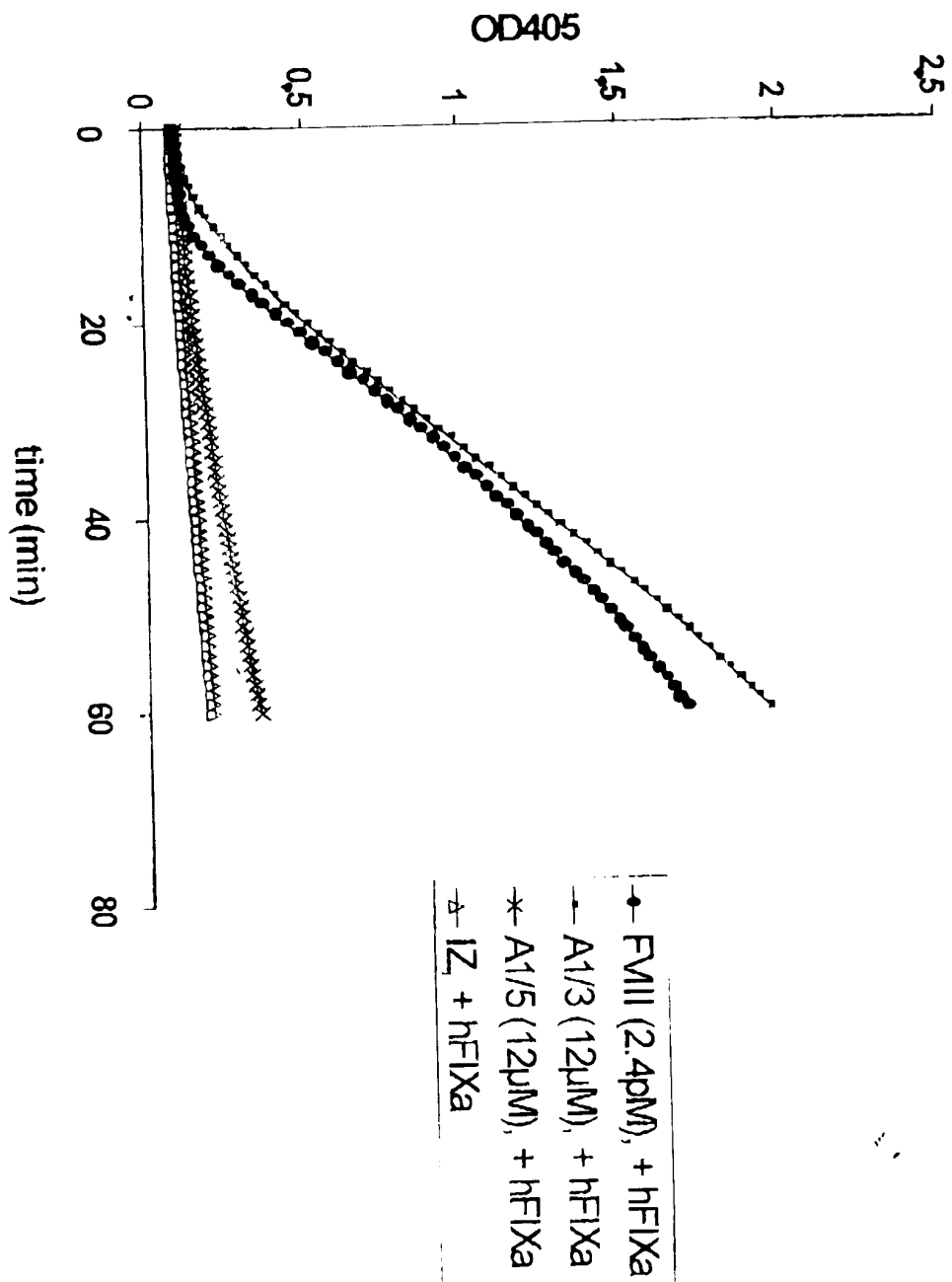


Fig. 20

31/61

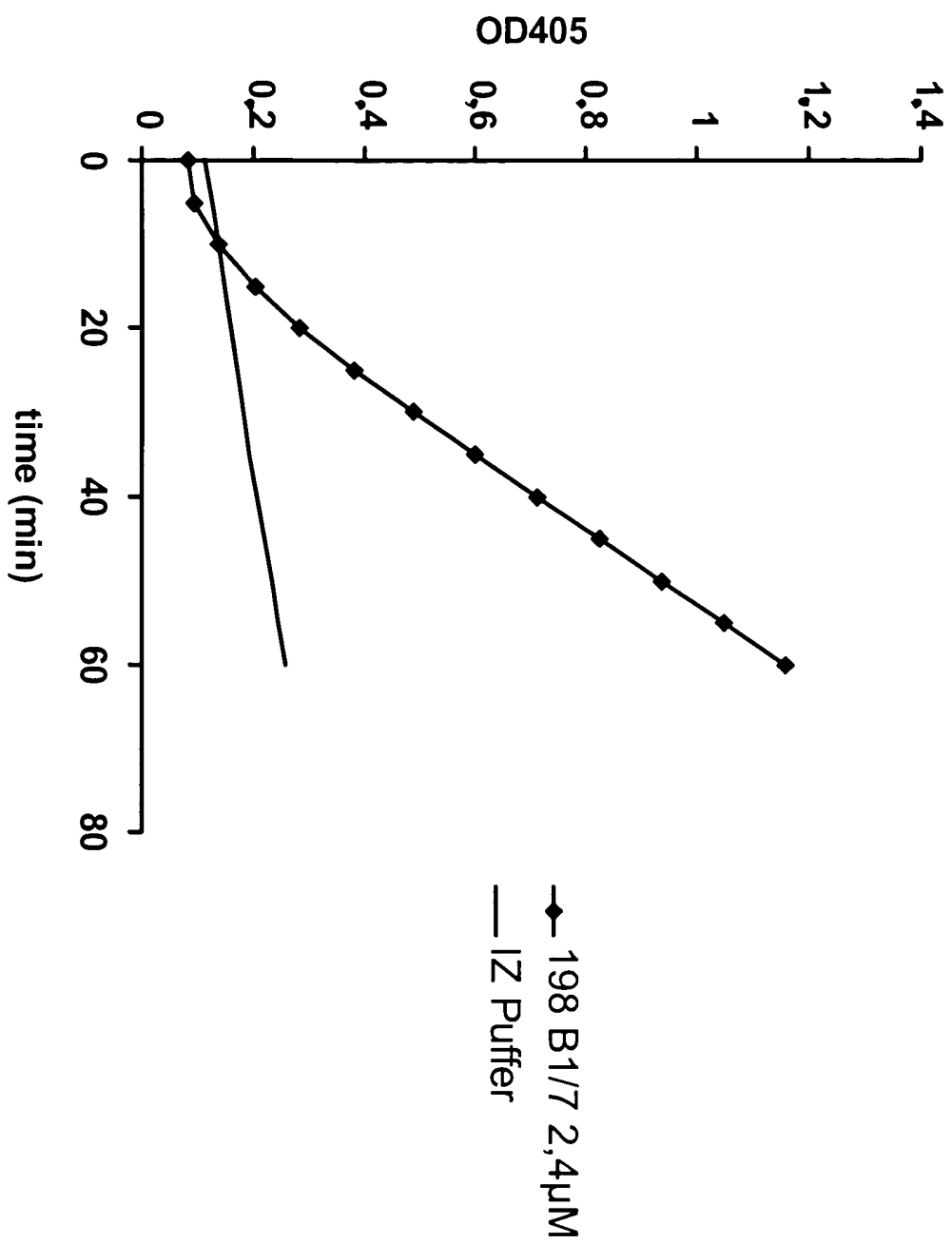


Fig. 21



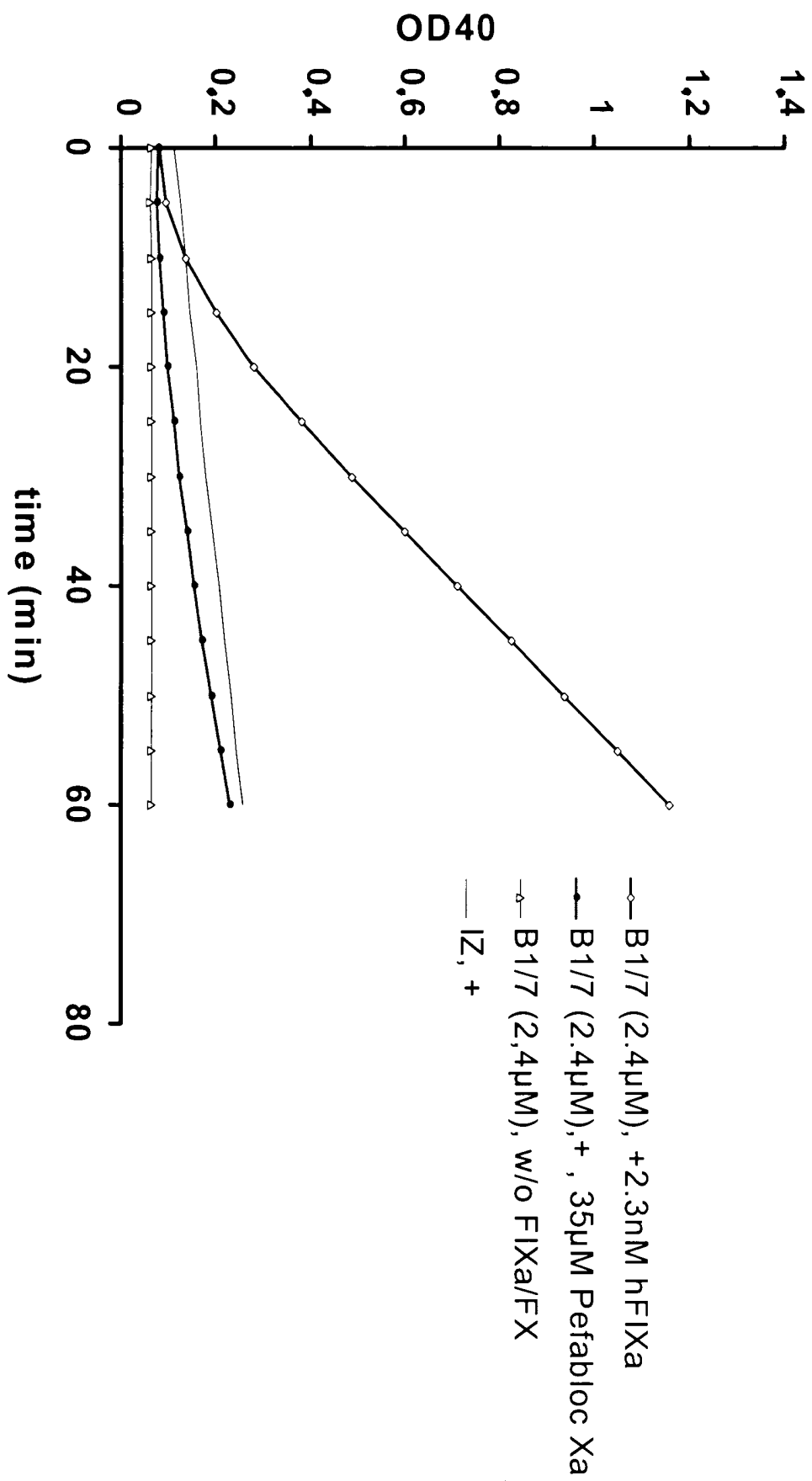


Fig. 22

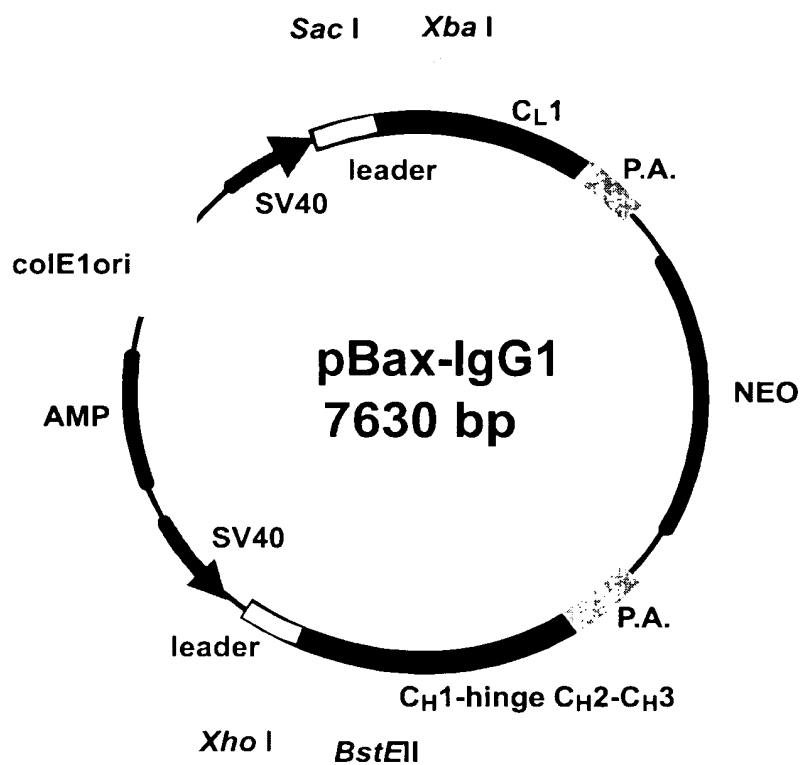


Figure 23

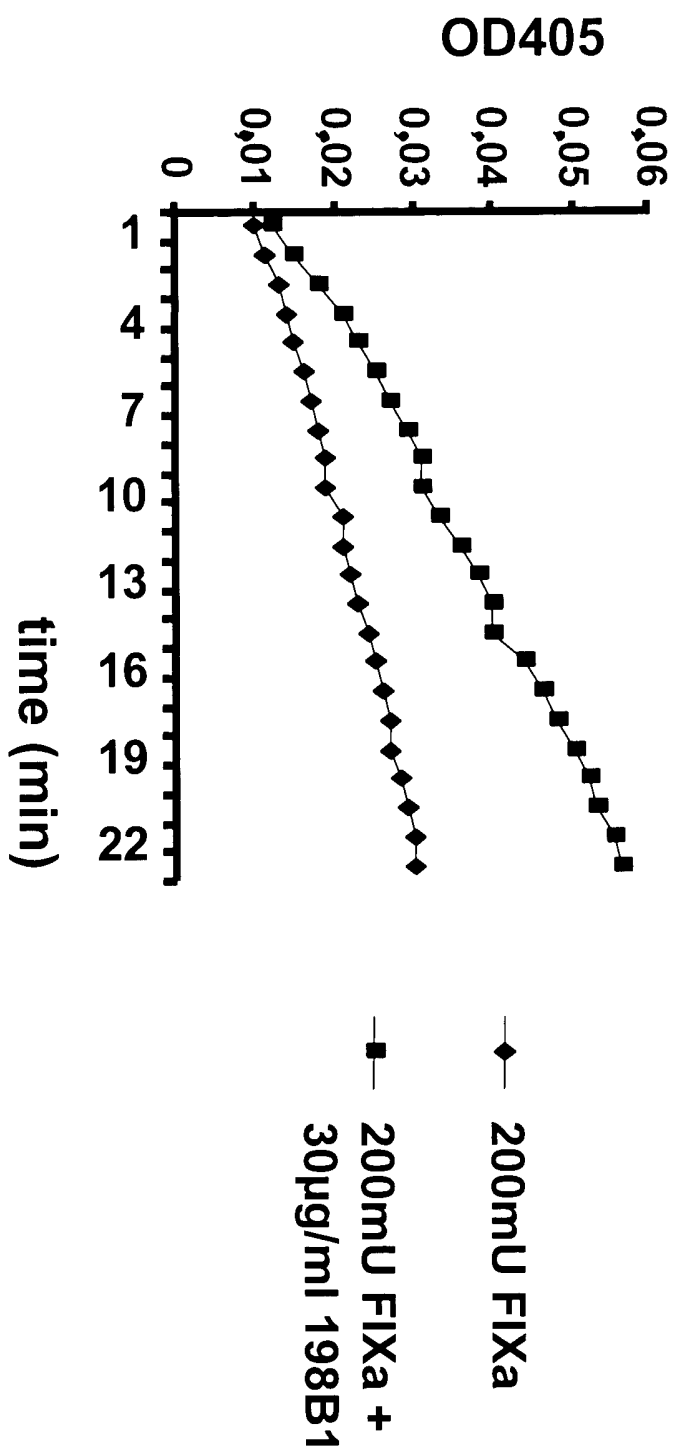


Fig. 24A

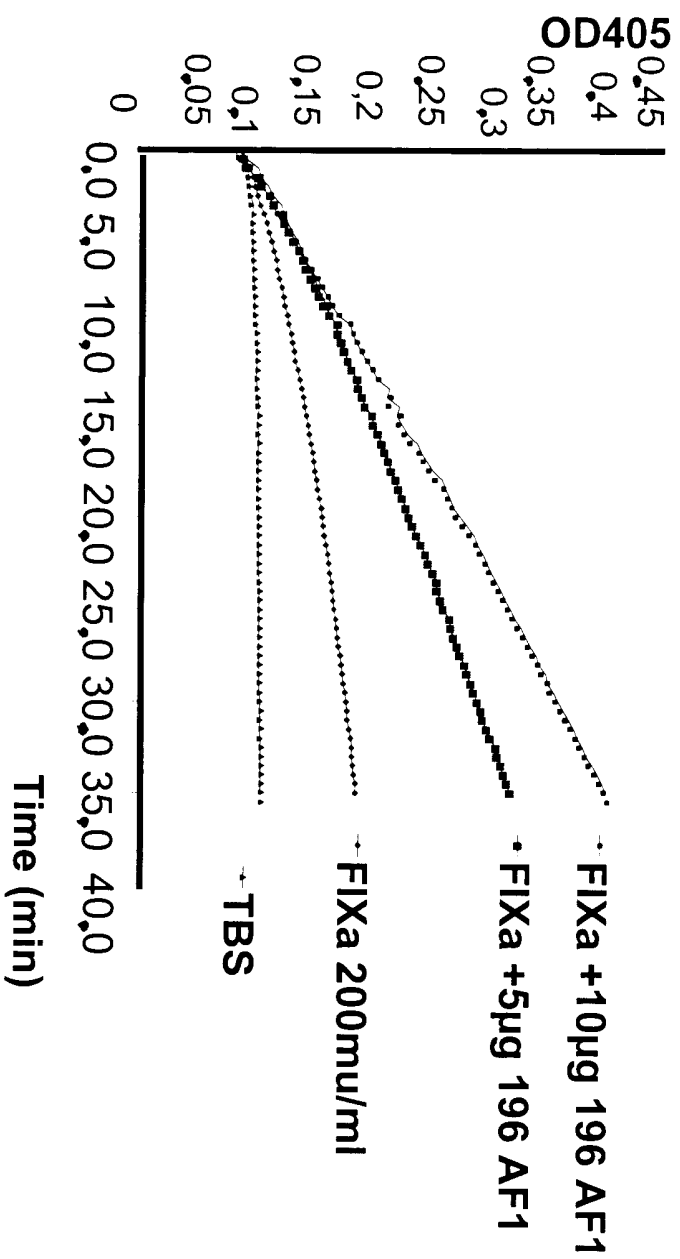


Fig. 24B

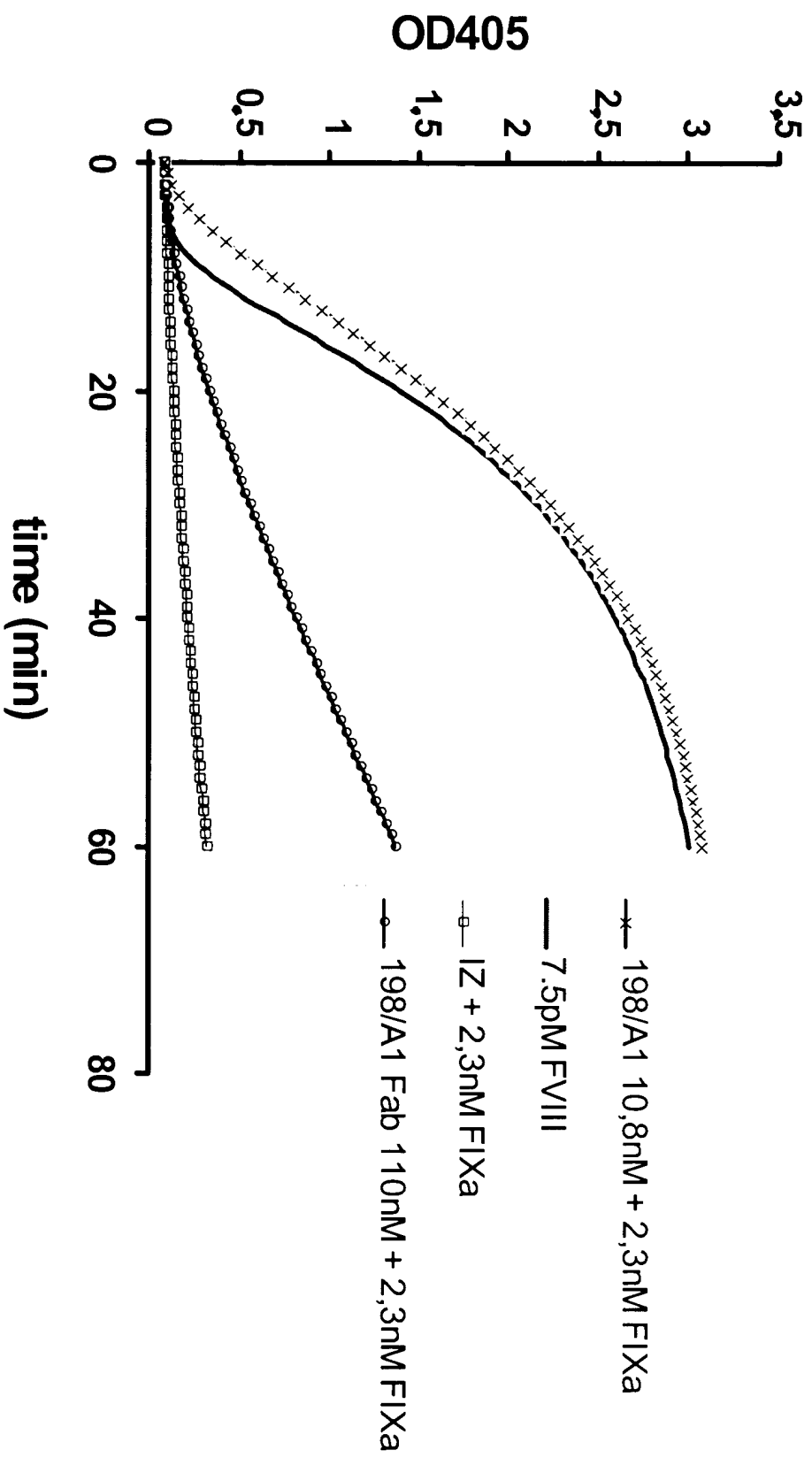


Fig. 25

PelB-leader

+1 M K Y L L P T A A A G L L L  
 1 ATG AAA TAC CTA TTG CCT ACG GCA GCC GCT GGA TTG TTA TTA  
 TAC TTT ATG GAT AAC GGA TGC CGT CGG CGA CCT AAC AAT AAT

VH

+1 L A A Q P A M A E V K L V E  
 43 CTC GCG GCC CAG CCG GCC ATG GCG GAG GTG AAG CTG GTG GAG  
 GAG CGC CGG GTC GGC CGG TAC CGC CTC CAC TTC GAC CAC CTC

+1 S G G G L V K P G G S L K L  
 85 TCT GGG GGA GGC TTA GTG AAG CCT GGA GGG TCC CTG AAA CTC  
 AGA CCC CCT CCG AAT CAC TTC GGA CCT CCC AGG GAC TTT GAG

+1 S C A A S G F T F S S Y T M  
 127 TCC TGT GCA GCC TCT GGA TTC ACT TTC AGT AGC TAT ACC ATG  
 AGG ACA CGT CGG AGA CCT AAG TGA AAG TCA TCG ATA TGG TAC

+1 S W V R Q T P E K R L E W V  
 169 TCT TGG GTT CGC CAG ACT CCG GAG AAG AGG CTG GAG TGG GTC  
 AGA ACC CAA GCG GTC TGA GGC CTC TTC TCC GAC CTC ACC CAG

+1 A T I S S G G S S T Y Y P D  
 211 GCA ACC ATT AGT AGT GGN GGT AGT TCC ACC TAC TAT CCA GAC  
 CGT TGG TAA TCA TCA CCN CCA TCA AGG TGG ATG ATA GGT CTG

+1 S V K G R F T I S R D N A K  
 253 AGT GTG AAG GGC CGA TTC ACC ATC TCC AGA GAC AAT GCC AAG  
 TCA CAC TTC CCG GCT AAG TGG TAG AGG TCT CTG TTA CGG TTC

+1 N T L Y L Q M S S L R S E D  
 295 AAC ACC CTG TAC CTG CAA ATG AGC AGT CTG AGG TCT GAG GAC  
 TTG TGG GAC ATG GAC GTT TAC TCG TCA GAC TCC AGA CTC CTG

+1 T A M Y Y C T R E G G G F T  
 337 ACA GCC ATG TAT TAC TGT ACA AGA GAG GGG GGT GGT TTC ACC  
 TGT CGG TAC ATA ATG ACA TGT TCT CTC CCC CCA CCA AAG TGG

+1 V N W Y F D V W G A G T S V  
 379 GTC AAC TGG TAC TTC GAT GTC TGG GGC GCA GGA ACC TCA GTC  
 CAG TTG ACC ATG AAG CTA CAG ACC CCG CGT CCT TGG AGT CAG

Linker

+1 T V S S G G G G S G G R A S  
 421 ACC GTC TCC TCA GGT GGA GGC GGT TCA GGT GGG CGC GCC TCT  
 TGG CAG AGG AGT CCA CCT CCG CCA AGT CCA CCC GCG CGG AGA

FIG 26-1

							VL							
+1	G	G	G	G	S	D	I	V	L	T	Q	S	P	A
463	GGC	GGT	GGC	GGA	TCG	GAC	ATT	GTG	CTG	ACA	CAG	TCT	CCA	GCT
	CCG	CCA	CCG	CCT	AGC	CTG	TAA	CAC	GAC	TGT	GTC	AGA	GGT	CGA
+1	S	L	A	V	S	L	G	Q	R	A	T	I	S	C
505	TCT	TTG	GCT	GTG	TCT	CTA	GGG	CAG	AGG	GCC	ACC	ATA	TCC	TGC
	AGA	AAC	CGA	CAC	AGA	GAT	CCC	GTC	TCC	CGG	TGG	TAT	AGG	ACG
+1	R	A	S	E	S	V	D	S	Y	G	Y	N	F	M
547	AGA	GCC	AGT	GAA	AGT	GTT	GAT	AGT	TAT	GGC	TAT	AAT	TTT	ATG
	TCT	CGG	TCA	CTT	TCA	CAA	CTA	TCA	ATA	CCG	ATA	TTA	AAA	TAC
+1	H	W	Y	Q	Q	I	P	G	Q	P	P	K	L	L
589	CAC	TGG	TAT	CAG	CAG	ATA	CCA	GGA	CAG	CCA	CCC	AAA	CTC	CTC
	GTG	ACC	ATA	GTC	GTC	TAT	GGT	CCT	GTC	GGT	GGG	TTT	GAG	GAG
+1	I	Y	R	A	S	N	L	E	S	G	I	P	A	R
631	ATC	TAT	CGT	GCA	TCC	AAC	CTA	GAG	TCT	GGG	ATC	CCT	GCC	AGG
	TAG	ATA	GCA	CGT	AGG	TTG	GAT	CTC	AGA	CCC	TAG	GGA	CGG	TCC
+1	F	S	G	S	G	S	R	T	D	F	T	L	T	I
673	TTC	AGT	GGC	AGT	GGG	TCT	AGG	ACA	GAC	TTC	ACC	CTC	ACC	ATT
	AAG	TCA	CCG	TCA	CCC	AGA	TCC	TGT	CTG	AAG	TGG	GAG	TGG	TAA
+1	N	P	V	E	A	D	D	V	A	T	Y	Y	C	Q
715	AAT	CCT	GTG	GAG	GCT	GAT	GAT	GTT	GCA	ACC	TAT	TAC	TGT	CAG
	TTA	GGA	CAC	CTC	CGA	CTA	CTA	CAA	CGT	TGG	ATA	ATG	ACA	GTC
+1	Q	S	N	E	D	P	L	T	F	G	T	G	T	R
757	CAA	AGT	AAT	GAG	GAT	CCG	CTC	ACG	TTC	GGT	ACT	GGG	ACC	AGA
	GTT	TCA	TTA	CTC	CTA	GGC	GAG	TGC	AAG	CCA	TGA	CCC	TGG	TCT
							Spacer							Alkaline phosphatase
+1	L	E	I	K	R	A	A	A	A	R	A	P	E	M
799	CTG	GAA	ATA	AAA	CGG	GCG	GCC	GCA	GCC	CGG	GCA	CCA	GAA	ATG
	GAC	CTT	TAT	TTT	GCC	CGC	CGG	CGT	CGG	GCC	CGT	GGT	CTT	TAC
+1	P	V	L	E	N	R	A	A	Q	G	D	I	T	A
841	CCT	GTT	CTG	GAA	AAC	CGG	GCT	GCT	CAG	GGC	GAT	ATT	ACT	GCA
	GGA	CAA	GAC	CTT	TTG	GCC	CGA	CGA	GTC	CCG	CTA	TAA	TGA	CGT
+1	P	G	G	A	R	R	L	T	G	D	Q	T	A	A
883	CCC	GGC	GGT	GCT	CGC	CGT	TTA	ACG	GGT	GAT	CAG	ACT	GCC	GCT
	GGG	CCG	CCA	CGA	GCG	GCA	AAT	TGC	CCA	CTA	GTC	TGA	CGG	CGA
+1	L	R	D	S	L	S	D	K	P	A	K	N	I	I
925	CTG	CGT	GAT	TCT	CTT	AGC	GAT	AAA	CCT	GCA	AAA	AAT	ATT	ATT
	GAC	GCA	CTA	AGA	GAA	TCG	CTA	TTT	GGA	CGT	TTT	TTA	TAA	TAA

+1	L	L	I	G	D	G	M	G	D	S	E	I	T	A
967	TTG	CTG	ATT	GGC	GAT	GGG	ATG	GGG	GAC	TCG	GAA	ATT	ACT	GCC
	AAC	GAC	TAA	CCG	CTA	CCC	TAC	CCC	CTG	AGC	CTT	TAA	TGA	CGG
+1	A	R	N	Y	A	E	G	A	G	G	F	F	K	G
1009	GCA	CGT	AAT	TAT	GCC	GAA	GGT	GCG	GGC	GGC	TTT	TTT	AAA	GGT
	CGT	GCA	TTA	ATA	CGG	CTT	CCA	CGC	CCG	CCG	AAA	AAA	TTT	CCA
+1	I	D	A	L	P	L	T	G	Q	Y	T	H	Y	A
1051	ATA	GAT	GCC	TTA	CCG	CTT	ACC	GGG	CAA	TAC	ACT	CAC	TAT	GCG
	TAT	CTA	CGG	AAT	GGC	GAA	TGG	CCC	GTT	ATG	TGA	GTG	ATA	CGC
+1	L	N	K	K	T	G	K	P	D	Y	V	T	D	S
1093	CTG	AAT	AAA	AAA	ACC	GGC	AAA	CCG	GAC	TAC	GTC	ACC	GAC	TCG
	GAC	TTA	TTT	TTT	TGG	CCG	TTT	GGC	CTG	ATG	CAG	TGG	CTG	AGC
+1	A	A	S	A	T	A	W	S	T	G	V	K	T	Y
1135	GCT	GCA	TCA	GCA	ACC	GCC	TGG	TCA	ACC	GGT	GTC	AAA	ACC	TAT
	CGA	CGT	AGT	CGT	TGG	CGG	ACC	AGT	TGG	CCA	CAG	TTT	TGG	ATA
+1	N	G	A	L	G	V	D	I	H	E	K	D	H	P
1177	AAC	GGC	GCG	CTG	GGC	GTC	GAT	ATT	CAC	GAA	AAA	GAT	CAC	CCA
	TTG	CCG	CGC	GAC	CCG	CAG	CTA	TAA	GTG	CTT	TTT	CTA	GTG	GGT
+1	T	I	L	E	M	A	K	A	A	G	L	A	T	G
1219	ACG	ATT	CTG	GAA	ATG	GCA	AAA	GCC	GCA	GGT	CTG	GCG	ACC	GGT
	TGC	TAA	GAC	CTT	TAC	CGT	TTT	CGG	CGT	CCA	GAC	CGC	TGG	CCA
+1	N	V	S	T	A	E	L	Q	D	A	T	P	A	A
1261	AAC	GTT	TCT	ACC	GCA	GAG	TTG	CAG	GAT	GCC	ACG	CCC	GCT	GCG
	TTG	CAA	AGA	TGG	CGT	CTC	AAC	GTC	CTA	CGG	TGC	GGG	CGA	CGC
+1	L	V	A	H	V	T	S	R	K	C	Y	G	P	S
1303	CTG	GTG	GCA	CAT	GTG	ACC	TCG	CGC	AAA	TGC	TAC	GGT	CCG	AGC
	GAC	CAC	CGT	GTA	CAC	TGG	AGC	GCG	TTT	ACG	ATG	CCA	GGC	TCG
+1	A	T	S	E	K	C	P	G	N	A	L	E	K	G
1345	GCG	ACC	AGT	GAA	AAA	TGT	CCG	GGT	AAC	GCT	CTG	GAA	AAA	GGC
	CGC	TGG	TCA	CTT	TTT	ACA	GGC	CCA	TTG	CGA	GAC	CTT	TTT	CCG
+1	G	K	G	S	I	T	E	Q	L	L	N	A	R	A
1387	GGA	AAA	GGA	TCG	ATT	ACC	GAA	CAG	CTG	CTT	AAC	GCT	CGT	GCC
	CCT	TTT	CCT	AGC	TAA	TGG	CTT	GTC	GAC	GAA	TTG	CGA	GCA	CGG
+1	D	V	T	L	G	G	G	A	K	T	F	A	E	T
1429	GAC	GTT	ACG	CTT	GGC	GGC	GGC	GCA	AAA	ACC	TTT	GCT	GAA	ACG
	CTG	CAA	TGC	GAA	CCG	CCG	CCG	CGT	TTT	TGG	AAA	CGA	CTT	TGC

FIG 26-3



+1	A	T	A	G	E	W	Q	G	K	T	L	R	E	Q
1471	GCA	ACC	GCT	GGT	GAA	TGG	CAG	GGA	AAA	ACG	CTG	CGT	GAA	CAG
	CGT	TGG	CGA	CCA	CTT	ACC	GTC	CCT	TTT	TGC	GAC	GCA	CTT	GTC
+1	A	Q	A	R	G	Y	Q	L	V	S	D	A	A	S
1513	GCA	CAG	GCG	CGT	GGT	TAT	CAG	TTG	GTG	AGC	GAT	GCT	GCC	TCA
	CGT	GTC	CGC	GCA	CCA	ATA	GTC	AAC	CAC	TCG	CTA	CGA	CGG	AGT
+1	L	N	S	V	T	E	A	N	Q	Q	K	P	L	L
1555	CTG	AAT	TCG	GTG	ACG	GAA	GCG	AAT	CAG	CAA	AAA	CCC	CTG	CTT
	GAC	TTA	AGC	CAC	TGC	CTT	CGC	TTA	GTC	GTT	TTT	GGG	GAC	GAA
+1	G	L	F	A	D	G	N	M	P	V	R	W	L	G
1597	GGC	CTG	TTT	GCT	GAC	GGC	AAT	ATG	CCA	GTG	CGC	TGG	CTA	GGA
	CCG	GAC	AAA	CGA	CTG	CCG	TTA	TAC	GGT	CAC	GCG	ACC	GAT	CCT
+1	P	K	A	T	Y	H	G	N	I	D	K	P	A	V
1639	CCG	AAA	GCA	ACG	TAC	CAT	GGC	AAT	ATC	GAT	AAG	CCC	GCA	GTC
	GGC	TTT	CGT	TGC	ATG	GTA	CCG	TTA	TAG	CTA	TTC	GGG	CGT	CAG
+1	T	C	T	P	N	P	Q	R	N	D	S	V	P	T
1681	ACC	TGT	ACG	CCA	AAT	CCG	CAA	CGT	AAT	GAC	AGT	GTA	CCA	ACC
	TGG	ACA	TGC	GGT	TTA	GGC	GTT	GCA	TTA	CTG	TCA	CAT	GGT	TGG
+1	L	A	Q	M	T	D	K	A	I	E	L	L	S	K
1723	CTG	GCG	CAG	ATG	ACC	GAC	AAA	GCC	ATT	GAA	TTG	TTG	AGT	AAA
	GAC	CGC	GTC	TAC	TGG	CTG	TTT	CGG	TAA	CTT	AAC	AAC	TCA	TTT
+1	N	E	K	G	F	F	L	Q	V	E	G	A	S	I
1765	AAT	GAG	AAA	GGC	TTT	TTC	CTG	CAA	GTT	GAA	GGT	GCG	TCA	ATC
	TTA	CTC	TTT	CCG	AAA	AAG	GAC	GTT	CAA	CTT	CCA	CGC	AGT	TAG
+1	D	K	Q	D	H	A	A	N	P	C	G	Q	I	G
1807	GAT	AAA	CAG	GAT	CAT	GCT	GCG	AAT	CCT	TGT	GGG	CAA	ATT	GGC
	CTA	TTT	GTC	CTA	GTA	CGA	CGC	TTA	GGA	ACA	CCC	GTT	TAA	CCG
+1	E	T	V	D	L	D	E	A	V	Q	R	A	L	E
1849	GAG	ACG	GTC	GAT	CTC	GAT	GAA	GCC	GTA	CAA	CGG	GCG	CTG	GAA
	CTC	TGC	CAG	CTA	GAG	CTA	CTT	CGG	CAT	GTT	GCC	CGC	GAC	CTT
+1	F	A	K	K	E	G	N	T	L	V	I	V	T	A
1891	TTC	GCT	AAA	AAG	GAG	GGT	AAC	ACG	CTG	GTC	ATA	GTC	ACC	GCT
	AAG	CGA	TTT	TTC	CTC	CCA	TTG	TGC	GAC	CAG	TAT	CAG	TGG	CGA
+1	D	H	A	H	A	S	Q	I	V	A	P	D	T	K
1933	GAT	CAC	GCC	CAC	GCC	AGC	CAG	ATT	GTT	GCG	CCG	GAT	ACC	AAA
	CTA	GTG	CGG	GTG	CGG	TCG	GTC	TAA	CAA	CGC	GGC	CTA	TGG	TTT
+1	A	P	G	L	T	Q	A	L	N	T	K	D	G	A
1975	GCT	CCG	GGC	CTC	ACC	CAG	GCG	CTA	AAT	ACC	AAA	GAT	GGC	GCA
	CGA	GGC	CCG	GAG	TGG	GTC	CGC	GAT	TTA	TGG	TTT	CTA	CCG	CGT

FIG 26-4

	+1	V	M	V	M	S	Y	G	N	S	E	E	D	S	Q
2017		GTG	ATG	GTG	ATG	AGT	TAC	GGG	AAC	TCC	GAA	GAG	GAT	TCA	CAA
		CAC	TAC	CAC	TAC	TCA	ATG	CCC	TTG	AGG	CTT	CTC	CTA	AGT	GTT
	+1	E	H	T	G	S	Q	L	R	I	A	A	Y	G	P
2059		GAA	CAT	ACC	GGC	AGT	CAG	TTG	CGT	ATT	GCG	GCG	TAT	GGC	CCG
		CTT	GTA	TGG	CCG	TCA	GTC	AAC	GCA	TAA	CGC	CGC	ATA	CCG	GGC
	+1	H	A	A	N	V	V	G	L	T	D	Q	T	D	L
2101		CAT	GCC	GCC	AAT	GTT	GTT	GGA	CTG	ACC	GAC	CAG	ACC	GAT	CTC
		GTA	CGG	CGG	TTA	CAA	CAA	CCT	GAC	TGG	CTG	GTC	TGG	CTA	GAG
	+1	F	Y	T	M	K	A	A	L	G	D	I	His tag		
2143		TTC	TAC	ACC	ATG	AAA	GCC	GCT	CTG	GGG	GAT	ATC	GCA	CAC	CAT
		AAG	ATG	TGG	TAC	TTT	CGG	CGA	GAC	CCC	CTA	TAG	CGT	GTG	GTA
	+1	H	H	H	H	*									
2185		CAC	CAT	CAC	CAT	TAA									
		GTG	GTA	GTG	GTA	ATT									

Fig. 26-5

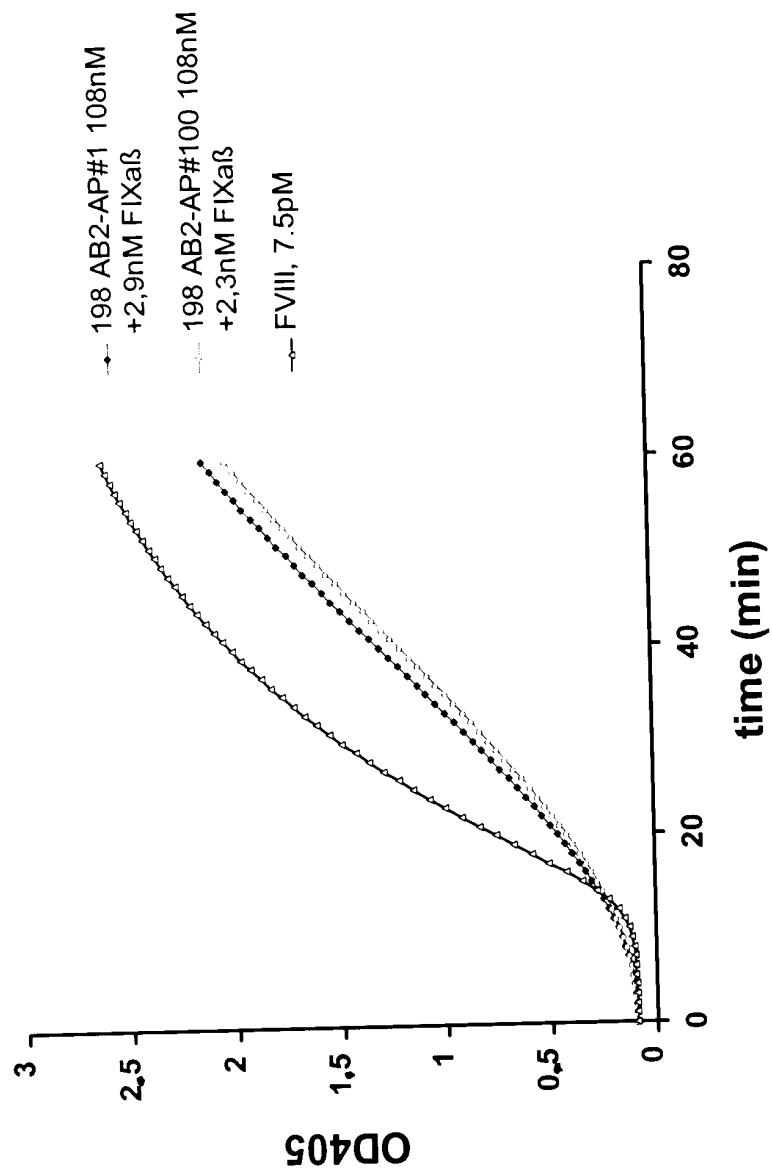


Fig. 27

PelB-Leader

+1 M K Y L L P T A A A G L L L L  
 1 ATG AAA TAC CTA TTG CCT ACG GCA GCC GCT GGA TTG TTA TTA CTC  
 TAC TTT ATG GAT AAC GGA TGC CGT CGG CGA CCT AAC AAT AAT GAG

VH

+1 A A Q P A M A E V K L V E S G  
 46 GCG GCC CAG CCG GCC ATG GCG GAG GTG AAG CTG GTG GAG TCT GGG  
 CGC CGG GTC GGC CGG TAC CGC CTC CAC TTC GAC CAC CTC AGA CCC

+1 G G L V K P G G S L K L S C A  
 91 GGA GGC TTA GTG AAG CCT GGA GGG TCC CTG AAA CTC TCC TGT GCA  
 CCT CCG AAT CAC TTC GGA CCT CCC AGG GAC TTT GAG AGG ACA CGT

+1 A S G F T F S S Y T M S W V R  
 136 GCC TCT GGA TTC ACT TTC AGT AGC TAT ACC ATG TCT TGG GTT CGC  
 CGG AGA CCT AAG TGA AAG TCA TCG ATA TGG TAC AGA ACC CAA GCG

+1 Q T P E K R L E W V A T I S S  
 181 CAG ACT CCG GAG AAG AGG CTG GAG TGG GTC GCA ACC ATT AGT AGT  
 GTC TGA GGC CTC TTC TCC GAC CTC ACC CAG CGT TGG TAA TCA TCA

+1 G G S S T Y Y P D S V K G R F  
 226 GGN GGT AGT TCC ACC TAC TAT CCA GAC AGT GTG AAG GGC CGA TTC  
 CCN CCA TCA AGG TGG ATG ATA GGT CTG TCA CAC TTC CCG GCT AAG

+1 T I S R D N A K N T L Y L Q M  
 271 ACC ATC TCC AGA GAC AAT GCC AAG AAC ACC CTG TAC CTG CAA ATG  
 TGG TAG AGG TCT CTG TTA CGG TTC TTG TGG GAC ATG GAC GTT TAC

+1 S S L R S E D T A M Y Y C T R  
 316 AGC AGT CTG AGG TCT GAG GAC ACA GCC ATG TAT TAC TGT ACA AGA  
 TCG TCA GAC TCC AGA CTC CTG TGT CGG TAC ATA ATG ACA TGT TCT

+1 E G G G F T V N W Y F D V W G  
 361 GAG GGG GGT GGT TTC ACC GTC AAC TGG TAC TTC GAT GTC TGG GGC  
 CTC CCC CCA CCA AAG TGG CAG TTG ACC ATG AAG CTA CAG ACC CCG

Linker

+1 A G T S V T V S S G G G G S G  
 406 GCA GGA ACC TCA GTC ACC GTC TCC TCA GGT GGA GGC GGT TCA GGT  
 CGT CCT TGG AGT CAG TGG CAG AGG AGT CCA CCT CCG CCA AGT CCA

VL

+1 G R A S G G G G S D I V L T Q  
 451 GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GTG CTG ACA CAG  
 CCC GCG CGG AGA CCG CCA CCG CCT AGC CTG TAA CAC GAC TGT GTC

F1628-1



PelB-leader

+1	M	K	Y	L	L	P	T	A	A	A	G	L	L	L
1	ATG	AAA	TAC	CTA	TTG	CCT	ACG	GCA	GCC	GCT	GGA	TTG	TTA	TTA
	TAC	TTT	ATG	GAT	AAC	GGA	TGC	CGT	CGG	CGA	CCT	AAC	AAT	AAT

										VH				
+1	L	A	A	Q	P	A	M	A		E	V	Q	L	Q
43	CTC	GCG	GCC	CAG	CCG	GCC	ATG	GCC		GAG	GTT	CAG	CTT	CAG
	GAG	CGC	CGG	GTC	GGC	CGG	TAC	CGG		CTC	CAA	GTC	GAA	GTC

+1	S	G	P	E	L	V	K	P	G	A	S	V	K	I
85	TCT	GGA	CCT	GAG	CTG	GTG	AAG	CCC	GGG	GCC	TCA	GTG	AAG	ATT
	AGA	CCT	GGA	CTC	GAC	CAC	TTC	GGG	CCC	CGG	AGT	CAC	TTC	TAA

+1	S	C	K	A	S	G	Y	A	F	S	S	S	W	M
127	TCC	TGC	AAA	GCT	TCT	GGC	TAC	GCA	TTC	AGT	AGC	TCT	TGG	ATG
	AGG	ACG	TTT	CGA	AGA	CCG	ATG	CGT	AAG	TCA	TCG	AGA	ACC	TAC

+1	N	W	V	K	Q	R	P	G	Q	G	L	E	W	I
169	AAC	TGG	GTG	AAG	CAG	AGG	CCT	GGA	CAG	GGT	CTT	GAG	TGG	ATT
	TTG	ACC	CAC	TTC	GTC	TCC	GGA	CCT	GTC	CCA	GAA	CTC	ACC	TAA

+1	G	R	I	Y	P	G	N	G	D	T	N	Y	N	G
211	GGA	CGG	ATT	TAT	CCT	GGA	AAT	GGA	GAT	ACT	AAC	TAC	AAT	GGG
	CCT	GCC	TAA	ATA	GGA	CCT	TTA	CCT	CTA	TGA	TTG	ATG	TTA	CCC

+1	K	F	K	G	K	A	T	L	T	A	D	K	S	S
253	AAG	TTC	AAG	GGC	AAG	GCC	ACA	CTG	ACT	GCA	GAC	AAA	TCC	TCC
	TTC	AAG	TTC	CCG	TTC	CGG	TGT	GAC	TGA	CGT	CTG	TTT	AGG	AGG

+1	S	T	A	Y	M	Q	L	S	S	L	T	S	V	D
295	AGC	ACA	GCC	TAC	ATG	CAG	CTC	AGC	AGC	CTG	ACC	TCT	GTG	GAC
	TCG	TGT	CGG	ATG	TAC	GTC	GAG	TCG	TCG	GAC	TGG	AGA	CAC	CTG

+1	S	A	V	Y	F	C	A	D	G	N	V	Y	Y	Y
337	TCT	GCG	GTC	TAT	TTC	TGT	GCA	GAT	GGT	AAC	GTA	TAT	TAC	TAT
	AGA	CGC	CAG	ATA	AAG	ACA	CGT	CTA	CCA	TTG	CAT	ATA	ATG	ATA

+1	A	M	D	Y	W	G	Q	G	T	S	V	T	V	S
379	GCT	ATG	GAC	TAC	TGG	GGT	CAA	GGA	ACC	TCA	GTC	ACC	GTC	TCC
	CGA	TAC	CTG	ATG	ACC	CCA	GTT	CCT	TGG	AGT	CAG	TGG	CAG	AGG

Linker

+1	S	G	G	G	G	S	G	G	R	A	S	G	G	G
421	TCA	GGT	GGA	GGC	GGT	TCA	GGT	GGG	CGC	GCC	TCT	GGC	GGT	GGC
	AGT	CCA	CCT	CCG	CCA	AGT	CCA	CCC	GCG	CGG	AGA	CCG	CCA	CCG

VL

+1	G	S	Q	I	V	L	T	Q	S	P	A	S	L	A
463	GGA	TCG	CAA	ATT	GTT	CTC	ACC	CAG	TCT	CCT	GCT	TCC	TTA	GCT
	CCT	AGC	GTT	TAA	CAA	GAG	TGG	GTC	AGA	GGA	CGA	AGG	AAT	CGA

+1	V	S	L	G	Q	R	A	T	I	S	C	R	A	S
505	GTA	TCT	CTG	GGG	CAG	AGG	GCC	ACC	ATC	TCA	TGC	AGG	GCC	AGC
	CAT	AGA	GAC	CCC	GTC	TCC	CGG	TGG	TAG	AGT	ACG	TCC	CGG	TCG
+1	K	S	V	S	T	S	G	Y	S	Y	M	H	W	Y
547	AAA	AGT	GTC	AGT	ACA	TCT	GGC	TAT	AGT	TAT	ATG	CAC	TGG	TAC
	TTT	TCA	CAG	TCA	TGT	AGA	CCG	ATA	TCA	ATA	TAC	GTG	ACC	ATG
+1	Q	Q	K	P	G	Q	P	P	K	L	L	I	Y	L
589	CAA	CAG	AAA	CCA	GGA	CAG	CCA	CCC	AAA	CTC	CTC	ATC	TAT	CTT
	GTT	GTC	TTT	GGT	CCT	GTC	GGT	GGG	TTT	GAG	GAG	TAG	ATA	GAA
+1	A	S	N	L	E	S	G	V	P	A	R	F	S	G
631	GCA	TCC	AAC	CTA	GAA	TCT	GGG	GTC	CCT	GCC	AGG	TTC	AGT	GGC
	CGT	AGG	TTG	GAT	CTT	AGA	CCC	CAG	GGA	CGG	TCC	AAG	TCA	CCG
+1	S	G	S	G	T	D	F	T	L	N	I	H	P	V
673	AGT	GGG	TCT	GGG	ACA	GAC	TTC	ACC	CTC	AAC	ATC	CAT	CCT	GTG
	TCA	CCC	AGA	CCC	TGT	CTG	AAG	TGG	GAG	TTG	TAG	GTA	GGA	CAC
+1	E	E	E	D	A	A	T	Y	Y	C	Q	H	S	R
715	GAG	GAG	GAG	GAT	GCT	GCA	ACC	TAT	TAC	TGT	CAG	CAC	AGT	AGG
	CTC	CTC	CTC	CTA	CGA	CGT	TGG	ATA	ATG	ACA	GTC	GTG	TCA	TCC
+1	E	L	P	R	T	F	G	G	G	T	K	L	E	I
757	GAG	CTT	CCT	CGG	ACG	TTC	GGT	GGA	GGC	ACC	AAG	CTG	GAA	ATC
	CTC	GAA	GGA	GCC	TGC	AAG	CCA	CCT	CCG	TGG	TTC	GAC	CTT	TAG
+1	K	R	Spacer				Alkaline phosphatase							
799	AAA	CGG	A	A	A	A	R	A	P	E	M	P	V	L
	TTT	GCC	GCG	GCC	GCA	GCC	CGG	GCA	CCA	GAA	ATG	CCT	GTT	CTG
			CGC	CGG	CGT	CGG	GCC	CGT	GGT	CTT	TAC	GGA	CAA	GAC
+1	E	N	R	A	A	Q	G	D	I	T	A	P	G	G
841	GAA	AAC	CGG	GCT	GCT	CAG	GGC	GAT	ATT	ACT	GCA	CCC	GGC	GGT
	CTT	TTG	GCC	CGA	CGA	GTC	CCG	CTA	TAA	TGA	CGT	GGG	CCG	CCA
+1	A	R	R	L	T	G	D	Q	T	A	A	L	R	D
883	GCT	CGC	CGT	TTA	ACG	GGT	GAT	CAG	ACT	GCC	GCT	CTG	CGT	GAT
	CGA	GCG	GCA	AAT	TGC	CCA	CTA	GTC	TGA	CGG	CGA	GAC	GCA	CTA
+1	S	L	S	D	K	P	A	K	N	I	I	L	L	I
925	TCT	CTT	AGC	GAT	AAA	CCT	GCA	AAA	AAT	ATT	ATT	TTG	CTG	ATT
	AGA	GAA	TCG	CTA	TTT	GGA	CGT	TTT	TTA	TAA	TAA	AAC	GAC	TAA
+1	G	D	G	M	G	D	S	E	I	T	A	A	R	N
967	GGC	GAT	GGG	ATG	GGG	GAC	TCG	GAA	ATT	ACT	GCC	GCA	CGT	AAT
	CCG	CTA	CCC	TAC	CCC	CTG	AGC	CTT	TAA	TGA	CGG	CGT	GCA	TTA

+1	Y	A	E	G	A	G	G	F	F	K	G	I	D	A
1009	TAT	GCC	GAA	GGT	GCG	GGC	GGC	TTT	TTT	AAA	GGT	ATA	GAT	GCC
	ATA	CGG	CTT	CCA	CGC	CCG	CCG	AAA	AAA	TTT	CCA	TAT	CTA	CGG
+1	L	P	L	T	G	Q	Y	T	H	Y	A	L	N	K
1051	TTA	CCG	CTT	ACC	GGG	CAA	TAC	ACT	CAC	TAT	GCG	CTG	AAT	AAA
	AAT	GGC	GAA	TGG	CCC	GTT	ATG	TGA	GTG	ATA	CGC	GAC	TTA	TTT
+1	K	T	G	K	P	D	Y	V	T	D	S	A	A	S
1093	AAA	ACC	GGC	AAA	CCG	GAC	TAC	GTC	ACC	GAC	TCG	GCT	GCA	TCA
	TTT	TGG	CCG	TTT	GGC	CTG	ATG	CAG	TGG	CTG	AGC	CGA	CGT	AGT
+1	A	T	A	W	S	T	G	V	K	T	Y	N	G	A
1135	GCA	ACC	GCC	TGG	TCA	ACC	GGT	GTC	AAA	ACC	TAT	AAC	GGC	GCG
	CGT	TGG	CGG	ACC	AGT	TGG	CCA	CAG	TTT	TGG	ATA	TTG	CCG	CGC
+1	L	G	V	D	I	H	E	K	D	H	P	T	I	L
1177	CTG	GGC	GTC	GAT	ATT	CAC	GAA	AAA	GAT	CAC	CCA	ACG	ATT	CTG
	GAC	CCG	CAG	CTA	TAA	GTG	CTT	TTT	CTA	GTG	GGT	TGC	TAA	GAC
+1	E	M	A	K	A	A	G	L	A	T	G	N	V	S
1219	GAA	ATG	GCA	AAA	GCC	GCA	GGT	CTG	GCG	ACC	GGT	AAC	GTT	TCT
	CTT	TAC	CGT	TTT	CGG	CGT	CCA	GAC	CGC	TGG	CCA	TTG	CAA	AGA
+1	T	A	E	L	Q	D	A	T	P	A	A	L	V	A
1261	ACC	GCA	GAG	TTG	CAG	GAT	GCC	ACG	CCC	GCT	GCG	CTG	GTG	GCA
	TGG	CGT	CTC	AAC	GTC	CTA	CGG	TGC	GGG	CGA	CGC	GAC	CAC	CGT
+1	H	V	T	S	R	K	C	Y	G	P	S	A	T	S
1303	CAT	GTG	ACC	TCG	CGC	AAA	TGC	TAC	GGT	CCG	AGC	GCG	ACC	AGT
	GTA	CAC	TGG	AGC	GCG	TTT	ACG	ATG	CCA	GGC	TCG	CGC	TGG	TCA
+1	E	K	C	P	G	N	A	L	E	K	G	G	K	G
1345	GAA	AAA	TGT	CCG	GGT	AAC	GCT	CTG	GAA	AAA	GGC	GGA	AAA	GGA
	CTT	TTT	ACA	GGC	CCA	TTG	CGA	GAC	CTT	TTT	CCG	CCT	TTT	CCT
+1	S	I	T	E	Q	L	L	N	A	R	A	D	V	T
1387	TCG	ATT	ACC	GAA	CAG	CTG	CTT	AAC	GCT	CGT	GCC	GAC	GTT	ACG
	AGC	TAA	TGG	CTT	GTC	GAC	GAA	TTG	CGA	GCA	CGG	CTG	CAA	TGC
+1	L	G	G	G	A	K	T	F	A	E	T	A	T	A
1429	CTT	GGC	GGC	GGC	GCA	AAA	ACC	TTT	GCT	GAA	ACG	GCA	ACC	GCT
	GAA	CCG	CCG	CCG	CGT	TTT	TGG	AAA	CGA	CTT	TGC	CGT	TGG	CGA
+1	G	E	W	Q	G	K	T	L	R	E	Q	A	Q	A
1471	GGT	GAA	TGG	CAG	GGA	AAA	ACG	CTG	CGT	GAA	CAG	GCA	CAG	GCG
	CCA	CTT	ACC	GTC	CCT	TTT	TGC	GAC	GCA	CTT	GTC	CGT	GTC	CGC

F16 29-3



+1 R G Y Q L V S D A A S L N S  
 1513 CGT GGT TAT CAG TTG GTG AGC GAT GCT GCC TCA CTG AAT TCG  
 GCA CCA ATA GTC AAC CAC TCG CTA CGA CGG AGT GAC TTA AGC

+1 V T E A N Q Q K P L L G L F  
 1555 GTG ACG GAA GCG AAT CAG CAA AAA CCC CTG CTT GGC CTG TTT  
 CAC TGC CTT CGC TTA GTC GTT TTT GGG GAC GAA CCG GAC AAA

+1 A D G N M P V R W L G P K A  
 1597 GCT GAC GGC AAT ATG CCA GTG CGC TGG CTA GGA CCG AAA GCA  
 CGA CTG CCG TTA TAC GGT CAC GCG ACC GAT CCT GGC TTT CGT

+1 T Y H G N I D K P A V T C T  
 1639 ACG TAC CAT GGC AAT ATC GAT AAG CCC GCA GTC ACC TGT ACG  
 TGC ATG GTA CCG TTA TAG CTA TTC GGG CGT CAG TGG ACA TGC

+1 P N P Q R N D S V P T L A Q  
 1681 CCA AAT CCG CAA CGT AAT GAC AGT GTA CCA ACC CTG GCG CAG  
 GGT TTA GGC GTT GCA TTA CTG TCA CAT GGT TGG GAC CGC GTC

+1 M T D K A I E L L S K N E K  
 1723 ATG ACC GAC AAA GCC ATT GAA TTG TTG AGT AAA AAT GAG AAA  
 TAC TGG CTG TTT CGG TAA CTT AAC AAC TCA TTT TTA CTC TTT

+1 G F F L Q V E G A S I D K Q  
 1765 GGC TTT TTC CTG CAA GTT GAA GGT GCG TCA ATC GAT AAA CAG  
 CCG AAA AAG GAC GTT CAA CTT CCA CGC AGT TAG CTA TTT GTC

+1 D H A A N P C G Q I G E T V  
 1807 GAT CAT GCT GCG AAT CCT TGT GGG CAA ATT GGC GAG ACG GTC  
 CTA GTA CGA CGC TTA GGA ACA CCC GTT TAA CCG CTC TGC CAG

+1 D L D E A V Q R A L E F A K  
 1849 GAT CTC GAT GAA GCC GTA CAA CGG GCG CTG GAA TTC GCT AAA  
 CTA GAG CTA CTT CGG CAT GTT GCC CGC GAC CTT AAG CGA TTT

+1 K E G N T L V I V T A D H A  
 1891 AAG GAG GGT AAC ACG CTG GTC ATA GTC ACC GCT GAT CAC GCC  
 TTC CTC CCA TTG TGC GAC CAG TAT CAG TGG CGA CTA GTG CGG

+1 H A S Q I V A P D T K A P G  
 1933 CAC GCC AGC CAG ATT GTT GCG CCG GAT ACC AAA GCT CCG GGC  
 GTG CGG TCG GTC TAA CAA CGC GGC CTA TGG TTT CGA GGC CCG

+1 L T Q A L N T K D G A V M V  
 1975 CTC ACC CAG GCG CTA AAT ACC AAA GAT GGC GCA GTG ATG GTG  
 GAG TGG GTC CGC GAT TTA TGG TTT CTA CCG CGT CAC TAC CAC

FIG 29-4



```
+1  M   K   Y   L   L   P   T   A   A   A   G   L   L   L   L
1   ATG AAA TAC CTA TTG CCT ACG GCA GCC GCT GGA TTG TTA TTA CTC
    TAC TTT ATG GAT AAC GGA TGC CGT CGG CGA CCT AAC AAT AAT GAG
```

								VH							
+1	A	A	Q	P	A	M	A	E	V	Q	L	Q	Q	S	G
46	GCG	GCC	CAG	CCG	GCC	ATG	GCG	GAG	GTT	CAG	CTT	CAG	CAG	TCT	GGA
	CGC	CGG	GTC	GGC	CGG	TAC	CGC	CTC	CAA	GTC	GAA	GTC	GTC	AGA	CCT

+1	P	E	L	V	K	P	G	A	S	V	K	I	S	C	K
91	CCT	GAG	CTG	GTG	AAG	CCC	GGG	GCC	TCA	GTG	AAG	ATT	TCC	TGC	AAA
	GGA	CTC	GAC	CAC	TTC	GGG	CCC	CGG	AGT	CAC	TTC	TAA	AGG	ACG	TTT

+1	A	S	G	Y	A	F	S	S	S	W	M	N	W	V	K
136	GCT	TCT	GGC	TAC	GCA	TTC	AGT	AGC	TCT	TGG	ATG	AAC	TGG	GTG	AAG
	CGA	AGA	CCG	ATG	CGT	AAG	TCA	TCG	AGA	ACC	TAC	TTG	ACC	CAC	TTC

	+1	Q	R	P	G	Q	G	L	E	W	I	G	R	I	Y	P
181		CAG	AGG	CCT	GGA	CAG	GGT	CTT	GAG	TGG	ATT	GGA	CGG	ATT	TAT	CCT
		GTC	TCC	GGA	CCT	GTC	CCA	GAA	CTC	ACC	TAA	CCT	GCC	TAA	ATA	GGA

+1	G	N	G	D	T	N	Y	N	G	K	F	K	G	K	A
226	GGA	AAT	GGA	GAT	ACT	AAC	TAC	AAT	GGG	AAG	TTC	AAG	GGC	AAG	GCC
	CCT	TTA	CCT	CTA	TGA	TTG	ATG	TTA	CCC	TTC	AAG	TTC	CCG	TTC	CGG

+1	T	L	T	A	D	K	S	S	S	T	A	Y	M	Q	L
271	ACA	CTG	ACT	GCA	GAC	AAA	TCC	TCC	AGC	ACA	GCC	TAC	ATG	CAG	CTC
	TGT	GAC	TGA	CGT	CTG	TTT	AGG	AGG	TCG	TGT	CGG	ATG	TAC	GTC	GAG

	+1	S	S	L	T	S	V	D	S	A	V	Y	F	C	A	D
316		AGC	AGC	CTG	ACC	TCT	GTG	GAC	TCT	GCG	GTC	TAT	TTC	TGT	GCA	GAT
		TCG	TCG	GAC	TGG	AGA	CAC	CTG	AGA	CGC	CAG	ATA	AAG	ACA	CGT	CTA

+1	G	N	V	Y	Y	Y	A	M	D	Y	W	G	Q	G	T
361	GGT	AAC	GTA	TAT	TAC	TAT	GCT	ATG	GAC	TAC	TGG	GGT	CAA	GGA	ACC
	CCA	TTG	CAT	ATA	ATG	ATA	CGA	TAC	CTG	ATG	ACC	CCA	GTT	CCT	TGG

	+1	S	V	T	V	S	S	Linker								
								G	G	G	G	S	G	G	R	A
406		TCA	GTC	ACC	GTC	TCC	TCA	GGT	GGA	GGC	GGT	TCA	GGT	GGG	CGC	GCC
		AGT	CAG	TGG	CAG	AGG	AGT	CCA	CCT	CCG	CCA	AGT	CCA	CCC	GCG	CGG

f16 30-1

								VL										
+1	S	G	G	G	G	S		Q	I	V	L	T	Q	S	P	A		
451	TCT	GGC	GGT	GGC	GGA	TCG		CAA	ATT	GTT	CTC	ACC	CAG	TCT	CCT	GCT		
	AGA	CCG	CCA	CCG	CCT	AGC		GTT	TAA	CAA	GAG	TGG	GTC	AGA	GGA	CGA		

+1	S	L	A	V	S	L	G	Q	R	A	T	I	S	C	R			
496	TCC	TTA	GCT	GTA	TCT	CTG	GGG	CAG	AGG	GCC	ACC	ATC	TCA	TGC	AGG			
	AGG	AAT	CGA	CAT	AGA	GAC	CCC	GTC	TCC	CGG	TGG	TAG	AGT	ACG	TCC			

+1	A	S	K	S	V	S	T	S	G	Y	S	Y	M	H	W			
541	GCC	AGC	AAA	AGT	GTC	AGT	ACA	TCT	GGC	TAT	AGT	TAT	ATG	CAC	TGG			
	CGG	TCG	TTT	TCA	CAG	TCA	TGT	AGA	CCG	ATA	TCA	ATA	TAC	GTG	ACC			

+1	Y	Q	Q	K	P	G	Q	P	P	K	L	L	I	Y	L			
586	TAC	CAA	CAG	AAA	CCA	GGA	CAG	CCA	CCC	AAA	CTC	CTC	ATC	TAT	CTT			
	ATG	GTT	GTC	TTT	GGT	CCT	GTC	GGT	GGG	TTT	GAG	GAG	TAG	ATA	GAA			

+1	A	S	N	L	E	S	G	V	P	A	R	F	S	G	S			
631	GCA	TCC	AAC	CTA	GAA	TCT	GGG	GTC	CCT	GCC	AGG	TTC	AGT	GGC	AGT			
	CGT	AGG	TTG	GAT	CTT	AGA	CCC	CAG	GGA	CGG	TCC	AAG	TCA	CCG	TCA			

+1	G	S	G	T	D	F	T	L	N	I	H	P	V	E	E			
676	GGG	TCT	GGG	ACA	GAC	TTC	ACC	CTC	AAC	ATC	CAT	CCT	GTG	GAG	GAG			
	CCC	AGA	CCC	TGT	CTG	AAG	TGG	GAG	TTG	TAG	GTA	GGA	CAC	CTC	CTC			

+1	E	D	A	A	T	Y	Y	C	Q	H	S	R	E	L	P			
721	GAG	GAT	GCT	GCA	ACC	TAT	TAC	TGT	CAG	CAC	AGT	AGG	GAG	CTT	CCT			
	CTC	CTA	CGA	CGT	TGG	ATA	ATG	ACA	GTC	GTG	TCA	TCC	CTC	GAA	GGA			

																		Spacer
+1	R	T	F	G	G	G	T	K	L	E	I	K	R	A	A			
766	CGG	ACG	TTC	GGT	GGA	GGC	ACC	AAG	CTG	GAA	ATC	AAA	CGG	GCG	GCC			
	GCC	TGC	AAG	CCA	CCT	CCG	TGG	TTC	GAC	CTT	TAG	TTT	GCC	CGC	CGG			

																		Helix
+1	A	P	K	P	S	T	P	P	G	S	S	R	M	K	Q			
811	GCA	CCG	AAG	CCT	TCC	ACT	CCG	CCC	GGG	TCT	TCC	CGT	ATG	AAA	CAG			
	CGT	GGC	TTC	GGA	AGG	TGA	GGC	GGG	CCC	AGA	AGG	GCA	TAC	TTT	GTC			

+1	L	E	D	K	V	E	E	L	L	S	K	N	Y	H	L			
856	CTG	GAA	GAC	AAA	GTA	GAG	GAG	CTC	CTT	AGC	AAG	AAC	TAC	CAT	CTA			
	GAC	CTT	CTG	TTT	CAT	CTC	CTC	GAG	GAA	TCG	TTC	TTG	ATG	GTA	GAT			

+1	E	N	E	V	A	R	L	K	K	L	V	G	E	R	G			
901	GAA	AAC	GAG	GTA	GCT	CGT	CTG	AAA	AAG	CTT	GTT	GGT	GAA	CGT	GGT			
	CTT	TTG	CTC	CAT	CGA	GCA	GAC	TTT	TTC	GAA	CAA	CCA	CTT	GCA	CCA			

F1630-2

Spacer		His-tag						
+1	G	H	H	H	H	H	H	*
946	GGT	CAC	CAT	CAC	CAT	CAC	CAT	TAA
	CCA	GTG	GTA	GTG	GTA	GTG	GTA	ATT

Fig. 30 - 3

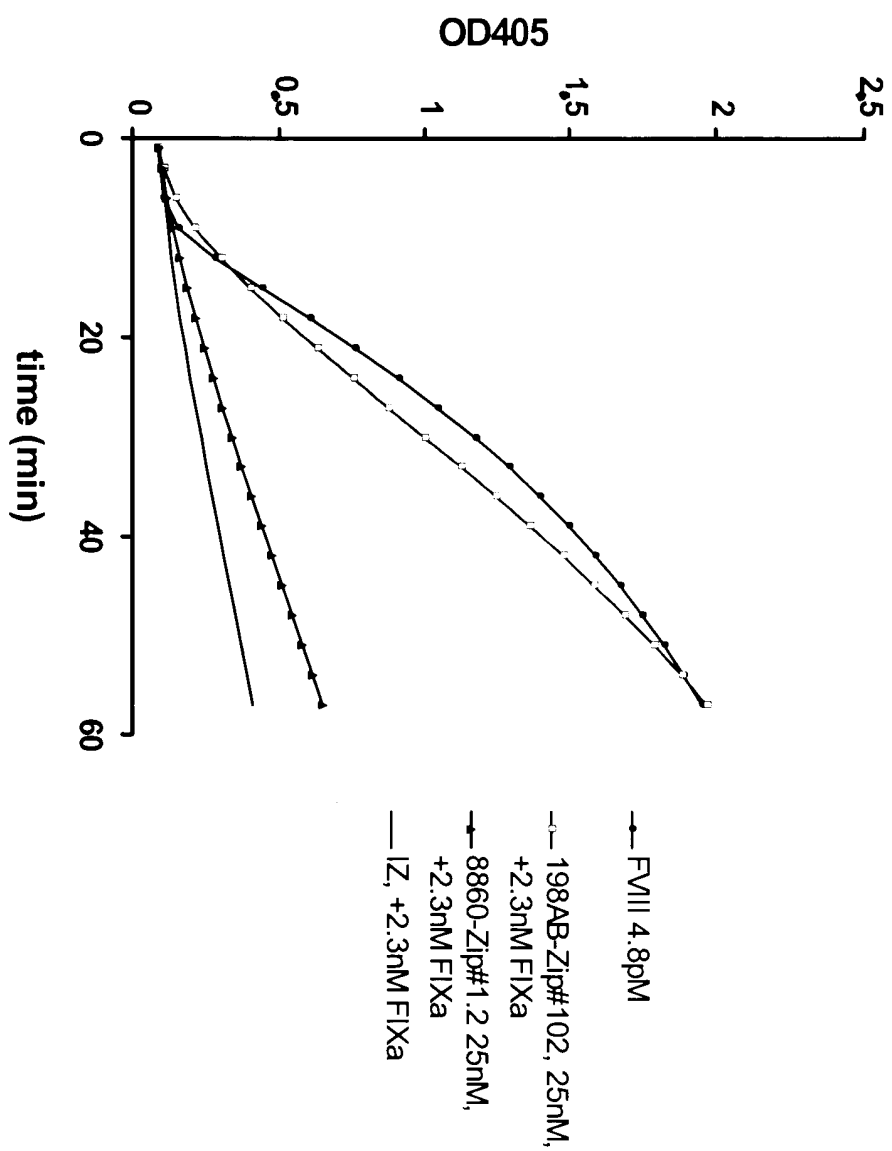


Fig. 31

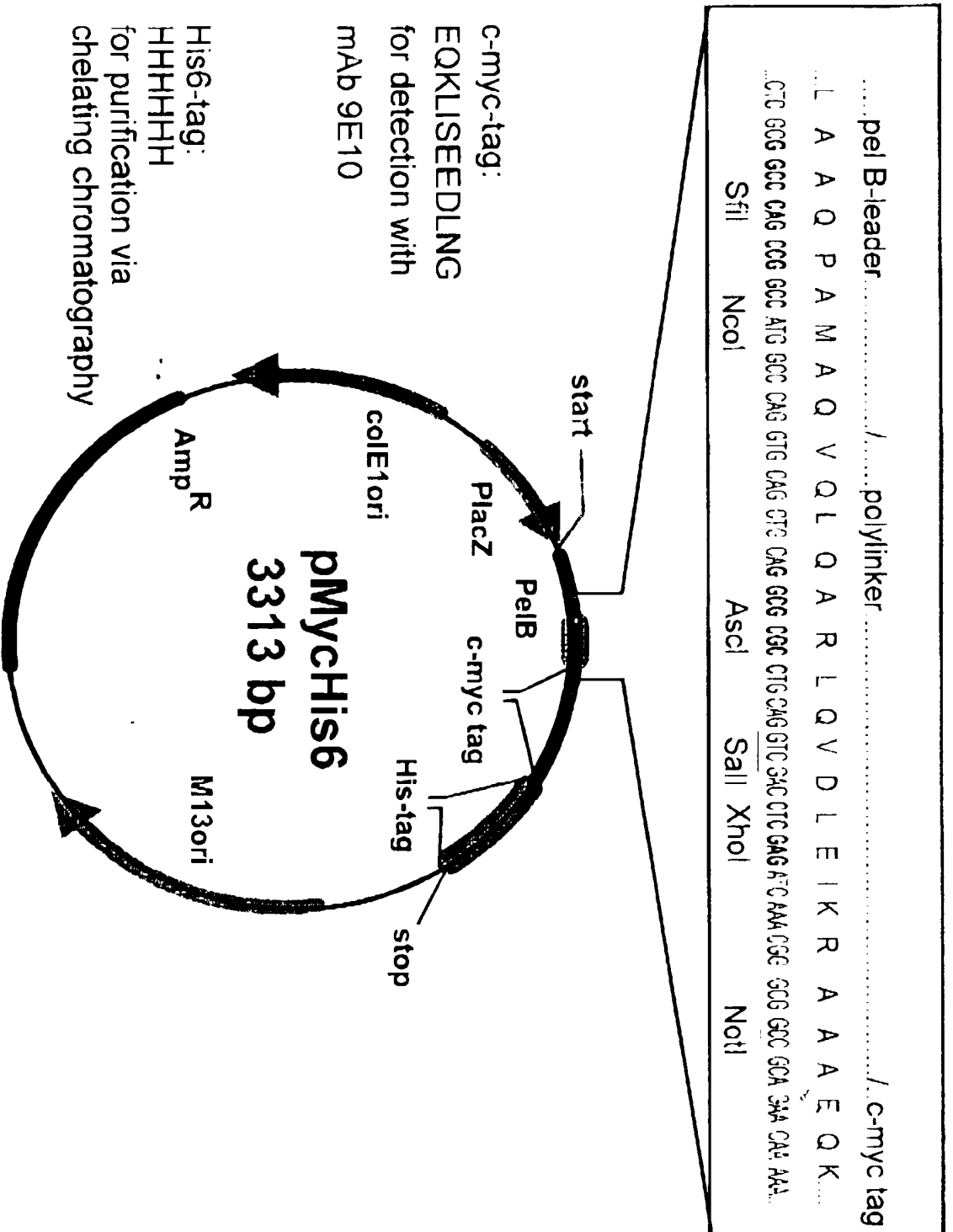


Fig. 32

HindIII  
~~~~~

2206 CAG GAA ACA GCT ATG ACC ATG ATT ACG CCA AGC TTC CAT GAA AAT  
GTC CTT TGT CGA TAC TGG TAC TAA TGC GGT TCG AAG GTA CTT TTA

PelB-Leader  
M K Y L L P T

2251 TCT ATT TCA AGG AGA CAG TCA TAA TGA AAT ACC TAT TGC CTA CGG  
AGA TAA AGT TCC TCT GTC AGT ATT ACT TTA TGG ATA ACG GAT GCC

A A A G L L L L A A Q P A M A  
SfiI  
~~~~~

2296 CAG CCG CTG GAT TGT TAT TAC TCG CGG CCC AGC CGG CCA TGG CCC  
GTC GGC GAC CTA ACA ATA ATG AGC GCC GGG TCG GCC GGT ACC GGG

Polylinker  
Q V Q L Q A R L Q V D L E I K  
AscI  
~~~~~

2341 AGG TGC AGC TGC AGG CGC GCC TGC AGG TCG ACC TCG AGA TCA AAC  
TCC ACG TCG ACG TCC GCG CGG ACG TCC AGC TGG AGC TCT AGT TTG

|   |        |  |  |         |   |   |   |   |   |   |   |   |   |   |
|---|--------|--|--|---------|---|---|---|---|---|---|---|---|---|---|
|   | Spacer |  |  | Myc-tag |   |   |   |   |   |   |   |   |   |   |
| R | A A A  |  |  | E       | Q | K | L | I | S | E | E | D | L | N |
|   | NotI   |  |  |         |   |   |   |   |   |   |   |   |   |   |

2386 GGG CGG CCG CAG AAC AAA AAC TCA TCT CAG AAG AGG ATC TGA ATG  
CCC GCC GGC GTC TTG TTT TTG AGT AGA GTC TTC TCC TAG ACT TAC

|   |        |  |                |   |   |   |   |   |   |   |
|---|--------|--|----------------|---|---|---|---|---|---|---|
|   | Spacer |  | His tag        |   |   |   |   |   |   |   |
| G | A A    |  | H              | H | H | H | H | H | * | * |
|   |        |  | EcoRI<br>~~~~~ |   |   |   |   |   |   |   |

2431 GGG CGG CAC ATC ACC ATC ACC ATC ACT AAT AAG AAT TCA CTG GCC  
CCC GCC GTG TAG TGG TAG TGG TAG TGA TTA TTC TTA AGT GAC CGG

Fig. 33



PelB-leader

+1 M K Y L L P T A A A G L L L L  
1 ATG AAA TAC CTA TTG CCT ACG GCA GCC GCT GGA TTG TTA TTA CTC  
TAC TTT ATG GAT AAC GGA TGC CGT CGG CGA CCT AAC AAT AAT GAG

VH

+1 A A Q P A M A E V K L V E S G  
46 GCG GCC CAG CCG GCC ATG GCC GAG GTG AAG CTG GTG GAG TCT GGG  
CGC CGG GTC GGC CGG TAC CGG CTC CAC TTC GAC CAC CTC AGA CCC

+1 G G L V K P G G S L K L S C A  
91 GGA GGC TTA GTG AAG CCT GGA GGG TCC CTG AAA CTC TCC TGT GCA  
CCT CCG AAT CAC TTC GGA CCT CCC AGG GAC TTT GAG AGG ACA CGT

+1 A S G F T F S S Y T M S W V R  
136 GCC TCT GGA TTC ACT TTC AGT AGC TAT ACC ATG TCT TGG GTT CGC  
CGG AGA CCT AAG TGA AAG TCA TCG ATA TGG TAC AGA ACC CAA GCG

+1 Q T P E K R L E W V A T I S S  
181 CAG ACT CCG GAG AAG AGG CTG GAG TGG GTC GCA ACC ATT AGT AGT  
GTC TGA GGC CTC TTC TCC GAC CTC ACC CAG CGT TGG TAA TCA TCA

+1 G G S S T Y Y P D S V K G R F  
226 GGN GGT AGT TCC ACC TAC TAT CCA GAC AGT GTG AAG GGC CGA TTC  
CCN CCA TCA AGG TGG ATG ATA GGT CTG TCA CAC TTC CCG GCT AAG

+1 T I S R D N A K N T L Y L Q M  
271 ACC ATC TCC AGA GAC AAT GCC AAG AAC ACC CTG TAC CTG CAA ATG  
TGG TAG AGG TCT CTG TTA CGG TTC TTG TGG GAC ATG GAC GTT TAC

+1 S S L R S E D T A M Y Y C T R  
316 AGC AGT CTG AGG TCT GAG GAC ACA GCC ATG TAT TAC TGT ACA AGA  
TCG TCA GAC TCC AGA CTC CTG TGT CGG TAC ATA ATG ACA TGT TCT

+1 E G G G F T V N W Y F D V W G  
361 GAG GGG GGT GGT TTC ACC GTC AAC TGG TAC TTC GAT GTC TGG GGC  
CTC CCC CCA CCA AAG TGG CAG TTG ACC ATG AAG CTA CAG ACC CCG

Leader

+1 A G T S V T V S S G G G G S G  
406 GCA GGA ACC TCA GTC ACC GTC TCC TCA GGT GGA GGC GGT TCA GGT  
CGT CCT TGG AGT CAG TGG CAG AGG AGT CCA CCT CCG CCA AGT CCA

VK

+1 G R A S G G G G S D I V L T Q  
451 GGG CGC GCC TCT GGC GGT GGC GGA TCG GAC ATT GTG CTG ACA CAG

FIG 34-1



PelB-leader

+1 M K Y L L P T A A A G L L L L  
 1 ATG AAA TAC CTA TTG CCT ACG GCA GCC GCT GGA TTG TTA TTA CTC  
 TAC TTT ATG GAT AAC GGA TGC CGT CGG CGA CCT AAC AAT AAT GAG

+1 A A Q P A M A | VH  
 46 GCG GCC CAG CCG GCC ATG GCC | E V Q L Q Q S G  
 CGC CGG GTC GGC CGG TAC CGG | CTC CAA GTC GAA GTC GTC AGA CCT

+1 P E L V K P G A S V K I S C K  
 91 CCT GAG CTG GTG AAG CCC GGG GCC TCA GTG AAG ATT TCC TGC AAA  
 GGA CTC GAC CAC TTC GGG CCC CGG AGT CAC TTC TAA AGG ACG TTT

+1 A S G Y A F S S S W M N W V K  
 136 GCT TCT GGC TAC GCA TTC AGT AGC TCT TGG ATG AAC TGG GTG AAG  
 CGA AGA CCG ATG CGT AAG TCA TCG AGA ACC TAC TTG ACC CAC TTC

+1 Q R P G Q G L E W I G R I Y P  
 181 CAG AGG CCT GGA CAG GGT CTT GAG TGG ATT GGA CGG ATT TAT CCT  
 GTC TCC GGA CCT GTC CCA GAA CTC ACC TAA CCT GCC TAA ATA GGA

+1 G N G D T N Y N G K F K G K A  
 226 GGA AAT GGA GAT ACT AAC TAC AAT GGG AAG TTC AAG GGC AAG GCC  
 CCT TTA CCT CTA TGA TTG ATG TTA CCC TTC AAG TTC CCG TTC CGG

+1 T L T A D K S S S T A Y M Q L  
 271 ACA CTG ACT GCA GAC AAA TCC TCC AGC ACA GCC TAC ATG CAG CTC  
 TGT GAC TGA CGT CTG TTT AGG AGG TCG TGT CGG ATG TAC GTC GAG

+1 S S L T S V D S A V Y F C A D  
 316 AGC AGC CTG ACC TCT GTG GAC TCT GCG GTC TAT TTC TGT GCA GAT  
 TCG TCG GAC TGG AGA CAC CTG AGA CGC CAG ATA AAG ACA CGT CTA

+1 G N V Y Y Y A M D Y W G Q G T  
 361 GGT AAC GTA TAT TAC TAT GCT ATG GAC TAC TGG GGT CAA GGA ACC  
 CCA TTG CAT ATA ATG ATA CGA TAC CTG ATG ACC CCA GTT CCT TGG

+1 S V T V S S | Leader  
 406 TCA GTC ACC GTC TCC TCA | G G G G S G G R A  
 AGT CAG TGG CAG AGG AGT | CCA CCT CCG CCA AGT CCA CCC GCG CGG

+1 S G G G G S | VL  
 451 TCT GGC GGT GGC GGA TCG | Q I V L T Q S P A  
 AGA CCG CCA CCG CCT AGC | GTT TAA CAA GAG TGG GTC AGA GGA CGA

F1635-1

+1 S L A V S L G Q R A T I S C R  
 496 TCC TTA GCT GTA TCT CTG GGG CAG AGG GCC ACC ATC TCA TGC AGG  
 AGG AAT CGA CAT AGA GAC CCC GTC TCC CGG TGG TAG AGT ACG TCC

+1 A S K S V S T S G Y S Y M H W  
 541 GCC AGC AAA AGT GTC AGT ACA TCT GGC TAT AGT TAT ATG CAC TGG  
 CGG TCG TTT TCA CAG TCA TGT AGA CCG ATA TCA ATA TAC GTG ACC

+1 Y Q Q K P G Q P P K L L I Y L  
 586 TAC CAA CAG AAA CCA GGA CAG CCA CCC AAA CTC CTC ATC TAT CTT  
 ATG GTT GTC TTT GGT CCT GTC GGT GGG TTT GAG GAG TAG ATA GAA

+1 A S N L E S G V P A R F S G S  
 631 GCA TCC AAC CTA GAA TCT GGG GTC CCT GCC AGG TTC AGT GGC AGT  
 CGT AGG TTG GAT CTT AGA CCC CAG GGA CGG TCC AAG TCA CCG TCA

+1 G S G T D F T L N I H P V E E  
 676 GGG TCT GGG ACA GAC TTC ACC CTC AAC ATC CAT CCT GTG GAG GAG  
 CCC AGA CCC TGT CTG AAG TGG GAG TTG TAG GTA GGA CAC CTC CTC

+1 E D A A T Y Y C Q H S R E L P  
 721 GAG GAT GCT GCA ACC TAT TAC TGT CAG CAC AGT AGG GAG CTT CCT  
 CTC CTA CGA CGT TGG ATA ATG ACA GTC GTG TCA TCC CTC GAA GGA

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |        |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|--------|
|     | +1  | R   | T   | F   | G   | G   | G   | T   | K   | L   | E   | I   | K   | R       | Spacer |
| 766 | CGG | ACG | TTC | GGT | GGA | GGC | ACC | AAG | CTG | GAA | ATC | AAA | CGG | A A     |        |
|     | GCC | TGC | AAG | CCA | CCT | CCG | TGG | TTC | GAC | CTT | TAG | TTT | GCC | GCG GCC |        |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | CGC CGG |        |

|     |     |     |         |     |     |     |     |     |     |     |     |     |        |         |
|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|---------|
|     | +1  | A   | Myc-tag |     |     |     |     |     |     |     |     |     | Spacer |         |
| 811 | GCA | E   | Q       | K   | L   | I   | S   | E   | E   | D   | L   | N   | G      | A A     |
|     | CGT | GAA | CAA     | AAA | CTC | ATC | TCA | GAA | GAG | GAT | CTG | AAT | GGG    | GCG GCA |
|     |     | CTT | GTT     | TTT | GAG | TAG | AGT | CTT | CTC | CTA | GAC | TTA | CCC    | CGC CGT |

His tag  
 +1 H H H H H H \*  
 856 CAT CAC CAT CAC CAT CAC TAA  
 GTA GTG GTA GTG GTA GTG ATT

Fig. 35-2

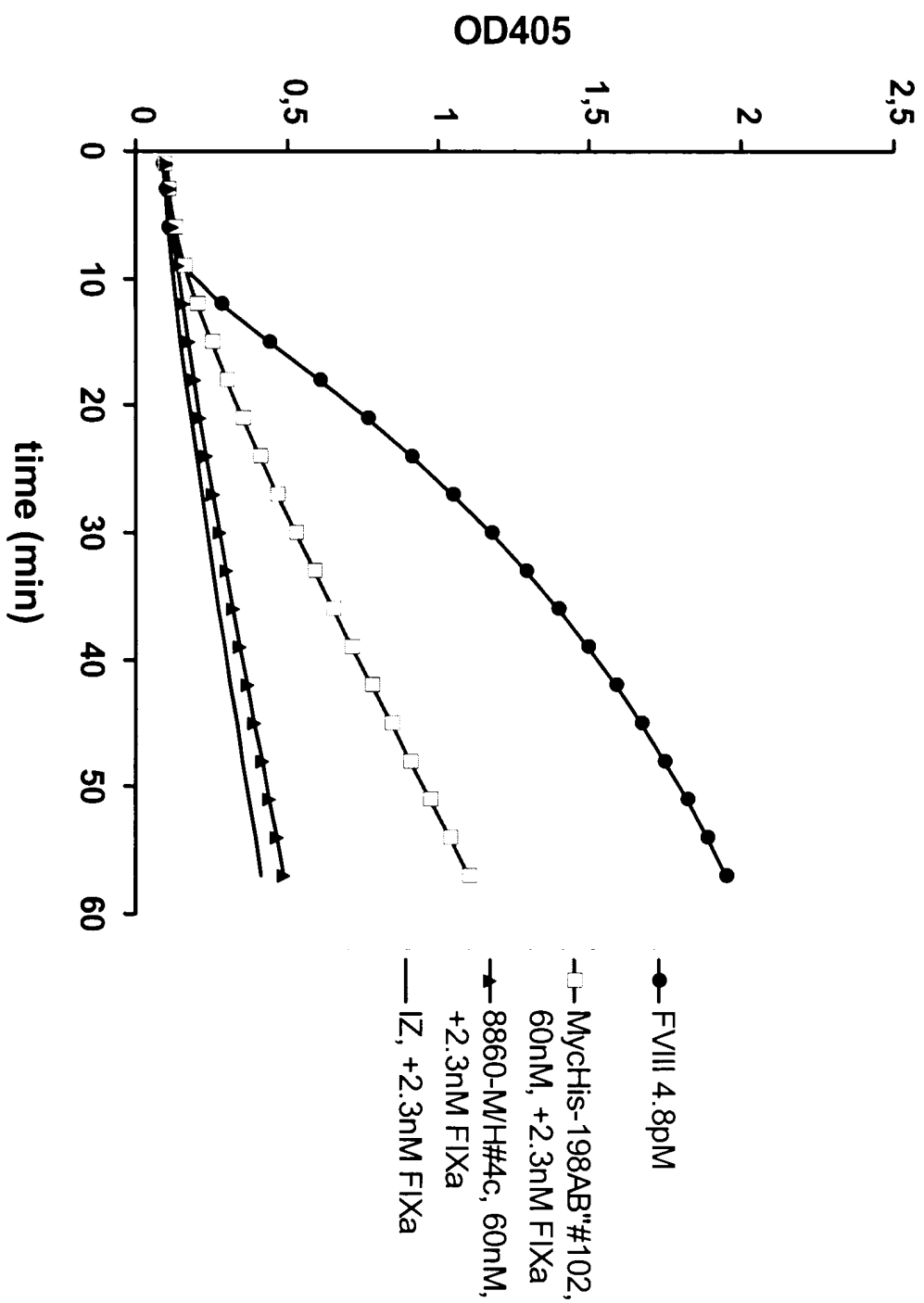


Fig. 36